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EDUCATIONAL TELEVISION CONFERENCE

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EDUCATIONAL TELEVISION CONFERENCE IN NEWFOUNDLAND AND LABRADOR 1966

AN ABSTRACT OF THE PROCEEDINGS

Edited by

LEWIS MILLER

SEPTEMBER 6-9, 1966 ST. JOHN'S, NEWFOUNDLAND

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M. O. Morgan

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Donald Snowden

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FOREWORD

The Conference on Educational Television, decided upon early in the summer of 1966 by Premier Joseph R. Smallwood of Newfoundland and Labrador, was held at Memorial University in St. John's from September 6 to 9, under the chairmanship of Mr. Don Jamieson, president of the Newfoundland Broadcasting Company.

The general outline of the conference was decided upon in discussions between Mr. Don Jamieson and Dr. Andrew Stewart, Chairman of the Board of Broadcast Governors, who had offered the Board's cooperation in planning the conference and securing the help of experienced educators and broadcasters from other parts of Canada and abroad.

The rapid development of Newfoundland and Labrador in recent years has given rise to a wide range of educational needs which Premier Smallwood and educators and administrators of Newfoundland hoped might be more quickly met by the use of television. In order to avoid pitfalls so many others had encountered and overcome elsewhere in the establishment of educational television projects, the advice and cooperation of experts from all other parts of Canada, and from the United States and the United Kingdom, from Italy and Japan, was sought and obtained. The following pages present the record of the conference.

PREFACE

The transcript of the tape-recordings of the conference sessions ran to 543 type-written pages. To have published the complete proceedings would have required the checking of many references made by participants from various parts of the world — references that were sometimes not clear in the recordings — and, in general, a pace of preparation would have been necessary that would have held back publication for an even lengthier period than this work has taken. Furthermore, preparation and publication of the complete transcript would have been considerably more costly. It was therefore decided that an abstract of the main addresses and of some of the points raised in discussion sessions should be prepared.

This method of approach of course has its drawbacks. Qualifications made by speakers might not receive sufficient stress in the generalizations and paraphrases that will be presented in an abstract. If this has happened I beg forgiveness. Forgiveness is sought, too, for the presentation of reports in the first person, as if they had been prepared by the speakers. Although the words of the speakers have been used as much as possible, it has been necessary to paraphrase considerably. A further reason for editorial qualms is that many interesting and important points were made during discussion sessions, and, as has been indicated, these sessions will be considerably abridged. While I hope that this method of approach has preserved the continuity that is apparent in the unabridged transcript, I must be held personally responsible for this abridged version. The general goodwill that prevailed among the participants, however — a spirit that, unfortunately, cannot be made manifest in the cold, generalized script of an abstract gives some confidence that any editorial failings will be forgiven.

LEWIS MILLER

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OPENING ADDRESS

*EDUCATION — SWORD OR PLOUGHSHARE?

by Donald L. Mordell,
Dean, Faculty of Engineering, McGill University

As we look at the world today, we see two great divisions threatening to split it. The first is material, the second is spiritual. On the material side our world is beset with strife, envy, greed and bitterness — the bitterness which comes from the frustration of realizing that other people or other communities or other nations enjoy living standards high enough to support a more dignified and contented existence, while one's own seems condemned to be a perpetual purgatory of want and economic anxiety.

This has been with us for 10,000 years, and it is still present almost everywhere today. There is no country today which does not contain people living at standards below any reasonable level that might be set and equally contains people living at very high standards indeed. The only difference lies in the relevant distribution of numbers. In India for example there are probably 100,000 people who enjoy much higher living standards than the wealthiest and most successful 100,000 Canadians, but there are probably 500,000,000 more whose abysmal living standards might not be shared by as many as 1,000 in Canada.

The thing that has changed in the past 10,000 years, and, in fact, only in the last century, is that great technological developments, particularly in transportation and communication, have so compressed space and time that water-tight political compartments are impossible. It is particularly the development in communications which, by making known to the less fortunate the easy life of the more fortunate, has done much to accelerate that envy, frustration and bitterness, and makes those with them ready to grasp at any straw which might promise escape from their purgatory. This is the first great division which splits the world, and all separate identifiable units of it, be they empires, nations, countries, states, provinces or cities, today.

*Note: This address was presented by Dean Mordell at the opening banquet of the conference, September 6, 1966.

The second division, which I term spiritual, as it might really be called religious, is the clash between the concept of man as an individual, having individual responsibility, and whose life is infinitely precious; and the concept of man as a servant or slave of a monolithic state to which his personal welfare and feeling may be sacrificed as the leader of the moment may consider necessary. Again, this is a division which has been present for many many years, and again has been influenced by the development of technology which has led to urbanization and dependence upon systems of environmental control (in its most general sense) of great complexity.

Looking at history does not tell us very much. The concept of the individual man is relatively recent, but there is really no objective way of proving that it is better or worse than the alternative. One might remark, on the one hand, that even those states which place the greatest responsibility on individuals find it necessary, temporarily, in times of strife or great difficulty, to assume the power of a monolithic state, although the characteristic of these states is that once emergency is passed, the power is ceded back to the individual. On the other hand, it is an undeniable fact that there is no state (representing a real political organization) that has endured throughout recorded history, but it is manifestly obvious that the unquenchable spirit of man and his desire to live, has survived all through history.

Because those of us who have lived under the system which emphasizes the individual concept value it very highly in subjective terms, it seems that it is really a matter of faith, like religion, and one must not forget that some of the bloodiest of wars in history have been fought by people holding different faiths about the nature and quality of God.

So the world is in a mess, but of course this is nothing new. It is the same kind of mess we have had for a very long time, but it is one which has been aggravated by modern technology. The question that one must then ask is as to whether technology can do anything about it. I can answer this question partially, at least, without any hesitation. The answer is nothing. Technology itself cannot do anything, but technology can supply the tools which man can use if he wishes to do something about it.

The two divisions I have referred to earlier are not in fact unrelated. The concept of individual dignity and responsibility surely comes hard to someone whose life is a perpetual struggle to find tomorrow's food

and who is hardened to the sight of his friends and his children dying of hunger because he cannot provide for them. We might paraphrase Abraham Lincoln a little and say: "This planet cannot endure half slave and half free".

Is there, in fact, anything that can be done which can help change the balance of the material in divisions of the world and, at the same time, advance our faith concerning the spiritual divisions?

Science and the practical applications of science, i.e. medicine, technology, agriculture have really transformed man's life, or at least that of the more fortunate members of the human race, in the last few hundred years in all aspects save those of eating, reproducing, and learning. These surely, and in the order given, are the most significant and worthwhile activities of the human race. Science and agriculture made more food available, but the basic processes by which the body gains its energy supply are really unchanged. Feeding is necessary if the individual is to survive, breeding is necessary if the race is to survive, and here, in spite of the predictions of Aldous Huxley in Brave New World, and developments in artificial insemination and proper genetic control of breeding for livestock purposes, I must confess that I do not regret that technology has not so far invaded this realm, save of course in terms of contraceptive devices. When the individual has lived and the race has survived, surely the next most important quality that must be brought in is that of learning, so that the race can do better. Here it is sad to relate that the last great breakthrough in teaching and education came about 3,000 to 4,000 years ago when people first learnt to use symbolic representations of knowledge and could inscribe on clay tablets or carve on stone, or use maps etc., to record information without relying on man's memory. Of course this evolution did not pass without criticism. "This discovery of yours", said Socrates to the inventor of the alphabet in Phaedrus, "will create forgetfulness in the learners' souls, because they will not use their memories, they will trust to the external written characters and not remember of themselves. They will appear to be omniscient and will generally know nothing".

However, in spite of Socrates' fear, writing did develop and with the later invention 500 years ago of moveable type, the method which man uses to teach his young became settled in a form which persists to this day, although there are at the moment certain indications that changes are in the wind.

It seems to me, however, that we are on the threshold of break-throughs in the field of education and learning which are going to have the most profound significance to every single person on this world whether he be living in North America, in Europe, in Asia, in Africa or on some remote island in the Pacific. I suspect that most people would agree that there is a revolution coming in education through the developments in communication, computers, etc. These however are concerned really only with the mechanics of teaching, a very important subject which we haven't yet started to really get down to grasp, but there is also a very fundamental question of what is it that is to be taught with these new means.

All of you present here tonight are, I am quite sure, much more knowledgeable than I as to how radio, television and all sorts of audio visual aids can be used to help bring knowledge and information to students. Essentially these are just crutches to help the invalid along. We may dream of TV sets in schools, in homes; we may dream of satellites in the sky beaming all forms of instructional material to all these receivers, but surely the fundamental difficulty in the mechanics of education is that we are very good at sending information in large quantity at 186,000 miles per second to a man's eyes or to his ears. It seems very often that the last quarter inch of the journey is travelled at a rate that is probably measured in miles per year. Is this not where one should make the real attack? In this area there are promising signs of progress already. Is it not a wonderful thing that at the moment of union of the sperm and the ova, there is some chemical process going on which in effect writes a most detailed specification for a human being? Such a specification is far more complex than the multiplication table or most other things we waste so much time on in the schools. In the olden days the greatest compliment a Polynesian chief could pay to his vanquished opponent, who had put up a brave and skilful fight showing great courage, was to eat him, because he believed by so doing he would acquire some of the good qualities that his opponent had shown. Absurd? Not at all. Professor Jacobson at the University of California and his colleagues have demonstrated fairly clearly that planarium worms which eat other planarium worms which have been trained, acquire thereby the training. If things like opium, LSD, etc., can produce illusions and hallucinations then surely it is clear that the physiological changes in the brain which represent accumulation of knowledge should one day be accessible to chemical treating, so that in principle one should be able

to learn the multiplication table or other useful things by taking a pill or having a shot in the arm. Again, Wilder Penfield in Montreal has shown clearly that pain can be activated by electrical signals, and the application of such signals to certain parts of the brain can cause certain effects. Hence the concept of a direct electrical input of knowledge to the brain is not really as absurd as the concept of a satellite taking photographs of the moon would have been to our grandfathers.

Predicting the future is always difficult, but one of the lessons I have learnt is that it usually comes a lot quicker than one expects. Let me illustrate by an example which has a certain local context. The Wright brothers first demonstrated powered controlled flight in the first few years of this century. In 1919 from not very far from where I am speaking tonight, Alcock and Brown flew to Clifton, Ireland. They carried no useful payload, it was far from comfortable and it terminated in a mild accident, but it was nevertheless the first non-stop crossing of the Atlantic by a heavier-than-air machine. At that time also, of course, an airship had crossed the Atlantic and 10 years later a great many of the world's most knowledgeable experts on aviation were convinced that commercial aircraft service across the Atlantic was not possible, and that the future lay with airships, and of course it is true that in the 1930's the only commercial service across the Atlantic was in the Graf Zeppelin and the Hindenberg. However, that was 35 years ago, and look at today! There are so many commercial aeroplanes, each carrying 100 or 150 people across the Atlantic in 5 hours that there is great argument whether they should be separated by 90 miles or 120 miles. This situation is not new. Dionysius Lardner in 1842 wrote a very learned treatise pointing out that commercial steamship service across the Atlantic was completely uneconomic, citing good arguments. The only thing he didn't do was to allow for the fact that some of the factors which he used in his arguments might be changed by discoveries and inventions in the next few years as Samuel Cunard showed. I cannot help adding a personal note that this attitude is still prevalent today because it has seemed during the past few years that those whose job it has been to give the Canadian Government advice on matters of science and technology have maintained with great vigour that one cannot use a gun for placing scientifically useful payloads in the upper atmosphere or in orbit, and of course we have very amply demonstrated the first part of this, and will demonstrate the second part in the relatively near future. The point I want to make here is that it seems to be a fairly fundamental human weakness which has appeared over a long period to

make assessments and projections based on existing knowledge without making any reasonable or proper allowance for things that are coming along.

I would, therefore, suggest that if you reflect that it took some 30 years to get from the Alcock and Brown flight across the Atlantic, to present conditions and assuring comparable technical advance within about the same time scale, we should have available very much better and faster methods of putting inputs into the greatest computer of all, namely the human brain.

On the second question, however, of what is to be taught, I feel that those of us who see the problem only from one point of view tend to be dominated by the feeling that there is a universally good pattern of education covering some five, ten, fifteen or twenty years of a person's formal training that is universally applicable. This, I submit, is complete and utter nonsense. The educational pattern must, to some extent, reflect the state of development of the people who are receiving it, so it may well be different in different parts of the world. Moreover, any given part of the world should properly be changing with time. A certain foreign country I know quite well, which is trying to develop itself fast, finds itself at the moment with a considerable superfluity of teachers of Latin, Greek, History and English Literature. It finds a complete lack of teachers in Physics, Chemistry, Mathematics, etc., i.e. of people who can help the citizens of this country really develop themselves and raise their standards of living.

All over the world there are developments, the only difference is in the degree and rate. If India and Asia are developing, so are the United States and Canada. The only difference is that they are on a different part of the curve. In earlier times school and university were regarded as places where a person accumulated most of the knowledge that he will need over his lifetime, but this is nonsense today. Much of the knowledge that today's youngster will need as he moves through his life has not yet been discovered, and much of what is now being taught is, or will soon become, obsolete or irrelevant.

In general I think it is fair to say that schools, yes, and I suspect universities too, fall down abysmally in their inability to develop a love for learning, in their failure to teach youngsters how to learn, to teach independent thought, and to train them in the uses of intuition and imagination.

Why is this so? It is easy to blame poor teachers, it is easy to blame lack of intelligent public support, and a great many other causes, but is not one of our great philosophical weaknesses the love of knowledge for its own sake? The educational establishment, be it in school or university, naturally values knowledge highly, and quite properly, but it is really only a small minority of people who find intense pleasure in acquiring knowledge for its own sake. The great majority of people seek knowledge for one of two reasons. The first one is that if they have the knowledge, they will be able to do something with it in the immediate sense, and the second, of course, is that it may help them achieve a better economic position in life. Educationists are always talking about the well informed, well rounded person. Alfred North Whitehead, that distinguished philosopher and mathematician, once said "A merely well informed man is the most useless bore on God's earth". The aim of education must be "the acquisition of the art of the utilization of knowledge". As far as the "well rounded" person is concerned, think of the analogy of a round ball on a table which if pushed in any direction will just go without any resistance or springing back. All my experience with the world has told me that those people who really produce things and get things done are not well rounded at all, they are quite definitely angular in various ways.

If I am critical of educational systems, let it be clear that I can also find much praise, and there is no doubt whatsoever in my mind that if we are relatively well off today in North America, it is due very largely to the education we have had in the past. My real point is to emphasize that there is a great deal of room for improvement in the mechanics of teaching for which I foresee tremendous developments in the next decade or so, and, I submit, an intense need, which does not appear to be the focus of much attention, for much reconsideration of what should be taught.

I suggest that our present usages of TV, communication satellites etc., in education are to be compared to the Wright brothers' first success, but that in a relatively short time-span we shall develop methods of providing input to the human brain that will make our present methods look as obsolete and old fashioned as does the Wright brothers' aeroplane today. I suggest, however, that there is perhaps a danger that we shall be dazzled by all these magical improvements in techniques and in so doing, may overlook the more fundamental review of the needs of education.

In the more developed countries, such as our own, there is a more or less standardized pattern for the first eleven or twelve years of education. I would query, however, quite seriously, the present trend to standardization for the next four or five years in university. Quite bluntly I suggest it has become a social status factor, a matter of keeping up with the Jones', for young people to go to university, and many young people today feel themselves driven to go to a university and in being so driven may be seriously harmed. If we are prepared to accept the fact that in the very near future continuing education of all types is going to be available for practically everybody, why should social pressure to get a concentrated dose of it at a critical period in man's development prevail?

Surely there are many types of activity in our present day life which could be prepared for much better by commencing a mixture of actual work and education on leaving high school with, I believe, much better results by the age of 30 or 35. I must make it clear that I do not suggest a sweeping away of university education at all. My point simply is that there appears to be a lack of balance. If this lack of balance is apparent in our own country, how much more apparent it is in some of the developing countries which are in an earlier stage than we. The chronic shortage in many developing countries is that of people who know how to make the best use of the land to grow food, who know the best way to control water supplies to improve irrigation, who can build roads and bridges and develop communications, etc., but the educational pattern seems to be focussed on the model that has been evolved in entirely different circumstances. It is producing people who have been trained to work in a completely different environment. What is needed is a broad range of skills and crafts spanning the gap between peasant and physicist. All of us in the education business have had lots of experience of the graduate student who comes from India or Asia to take graduate work at a Canadian university, driven by the sole goal of obtaining a piece of paper labelled Ph.D. which he looks upon as being a passport to an easy life. When he returns home he has forgotten how to work, he does not want to take an active part in the development of the country, but seems to feel that because he has this piece of paper he has joined a privileged class. He now does not expect to work directly, but to sit in an office and tell "others" what to do. In his own environment, however, these "others" cannot do what they are told because they have had no training. So, the experts, with their precious pieces of paper, return to sit at a desk and produce wondrous plans for which there is no means of implementation. The net result is that the foreign education merely helps its recipient to cross the gap which I referred to earlier in opening this talk, and in fact may effectively widen the gap.

In short, and in summary, the trouble with education today is that it has become too formalized and stylized. It has developed too many sacred cows with no special significance in themselves, but revered all too widely by a blind public. The high school graduation diploma, a bachelor's degree, a master's degree, a doctor's degree, are all worshipped and coveted for their own sake because vaguely it is felt that by acquisition of the title, success is guaranteed. What actually lies behind the title appears to be of no concern to anybody except a few specialists, and the result of this blind worship has been to create an imbalance in the total education pattern which I believe is harmful to the more developed countries, and even more harmful to the developing countries. The tremendous technological improvements which are going to affect the mechanics of education in the next decade will be completely prostituted if they are used merely to further development and perpetuate the present pattern. Who is going to have the courage to see that these developments permit a complete reconsideration of the present concepts of education, and will permit a restructuring which can have as its goal the idea of continuous education throughout life, with the education at any one stage being closely associated with the stages of the individual's development as a worker and as a citizen. When the technological developments I anticipate have come to pass, there may well be little need for the school and university system in their present form at all.

Let us make the effort, and it is a very great effort, to recognize that the role of technology in the development of mankind is not solely that of providing a better way of doing things that are already known, but above all, that the extension of man's capabilities by technology permits completely new and better ways of doing things, and I am convinced that if the advance of what I term educational technology is coupled with a re-examination of educational philosophy as it is changed and influenced by the availability of the technology, we may find the key to some of the problems which have been setting man against man for 10,000 years.

I regard it as inevitable that there are always going to be differences between different individuals. Our present system of education seems likely to freeze these differences rather than bridge them. One of the strengths of our western society is that it has done much to remove the former limitations on an individual's development which were enforced by the circumstances of his birth. It has, however, although providing means of development, in one sense substituted artificial hurdles for the natural ones.

In the evolution of the new education made possible by technology there is the hope of diminishing the strife, envy, greed and bitterness that, armed with technology, has the power to destroy us all.

CHAPTER I

FOCUS ON NEWFOUNDLAND AND LABRADOR

From the chairman's introduction

DON JAMIESON:

We felt that some of you would not have the necessary information about the educational problems of Newfoundland and Labrador to give us the benefit of your experience, specifically with the application of television, and broadcasting in general, to these problems. Thus in this opening session we decided to 'set the scene' — to give an outline of what our educational system is at the various levels.

* * *

University Education

PROFESSOR M. O. MORGAN, President (pro tem), Memorial University of Newfoundland.

This university started in 1925 as a university college and was elevated to a university in 1949. We have concentrated on an undergraduate program in Arts, Science, Commerce, and Education. One of the main functions of the University is teacher training.

The growth of the University is a reflection of the growth taking place in the province and of our high birth rate. Enrolment appears now to be at a rate that will double every four years. When we were planning this campus our enrolment was about 400. Last year we had 3100 students, and by 1975 we expect to have about 12,000. We have started graduate work at the master's level in most departments, and at the doctoral level in Chemistry and English. About 35% of our students are from the St. John's area, 60% from other parts of the province, including Labrador, and 5% from outside the province.

Our major academic problem is the weak training many students have in certain basic subjects, especially in languages, mathematics, and mathematical sciences. This problem results mainly from a shortage of qualified school teachers throughout the province.

We are now actively planning the development of professional schools, for medicine, engineering, social work, and business administration.

We have been active and will be increasingly more active in extension in a variety of programs reaching out all across the province. This program has been facilitated by establishing community leaders in various areas.

The use of technical aids for educational purposes has been coming under increasing investigation. To give an idea of our needs, this year we will have 1800 students taking first year English. Within five years that course will have between 3,000 to 4,000 students; thus we believe that closed-circuit TV will become a pressing necessity. At the same time the need is increasing for evening courses for credit, particularly for teachers in various parts of the province; thus we hope that through the use of new technical aids we can carry out our increasing responsibility to off-campus as well as to on-campus students.

An Outline of the History of Education for Newfoundland

P. J. HANLEY,

Deputy Minister of Education for Newfoundland

In order to give some idea of education in Newfoundland it is necessary to consider our history. In this report one can but point to highlights.

Development of Newfoundland was for a long time inhibited by laws enacted by the British Parliament against permanent settlement on this island. Despite these laws settlements were established, and until the centre of the province was opened these isolated settlements dotted our coastline. Since people of the same religious faith tended to congregate, each settlement was almost completely of one or the other of the major Christian religions.

As a result of the laws against settlement it was not until 1726 that the first school was founded, in Bonavista, by a religious society; and it was not until 1836, when the first Education Act was passed, that

the state took an active interest in education. That Act provided for a grant of 2100 pounds, to be divided among the denominational schools that had developed. The Act was amended in 1838, and again in 1843. The latter amendment increased the grant, and, by dividing it equally between Protestants and Catholics, implicitly recognized a 'two-way' system. The denominational educational system was officially recognized by the Act of 1874, and the basic provisions of this Act have not changed since.

The denomination system recognizes a partnership between church and state. The churches (there are now five basic denominations, the Anglican, Roman Catholic, Methodist, Salvation Army, and Pentecostal) have the right to establish schools. They build the schools, operate them through denominational school boards, and engage teachers. Government's role has been to provide the money to enable the churches to do this.

We do not have five systems of education. There is only one. All schools follow the same curriculum, with the exception that Roman Catholic schools have a separate set of readers. All schools take the same public examinations; and, in effect, there is one centralized system, becoming more centralized, within the Department of Education. It is one system, operated by church schools or through church schools; and in any overview of education in Newfoundland the following points should be borne in mind: (1) for the first 300 years nothing was done by the mother country to assist in education; (2) for the first 110 years education was provided only through churches and some private interests; and (3) although the first Education Act legislated for a non-denominational system, after thirty-eight years of dissatisfaction, and when alternative systems were not acceptable, the denominational system was adopted.

Emphasis had been placed on primary education, but there was no compulsory school attendance act, and many children did not attend even an elementary school. Although the Act of 1853 provided for the establishment of commercial schools, high school or secondary education was available only to a privileged few. In the middle 1800's the three major denominations at that time (the Anglicans, Methodists, and Roman Catholics) established denominational academies, later known as colleges, in St. John's, Harbour Grace, and Carbonear. Only children whose parents could afford to send them to denominational colleges

had any opportunity to obtain a high school education. In 1893, however, an act was passed that appointed a Council of Higher Education, empowered to establish a uniform system of competitive examinations throughout the province. This led to the establishing of uniform standards, and many schools throughout the province began preparing pupils for these examinations. And in 1916 an act was passed that made it possible for each Board of Education to establish a "superior school" (a school with at least two rooms) in its district. It thus became possible for students to remain in their areas and to acquire an education up to and including the equivalent of the Grade XI level. Progress was slow, however, and in 1924 only 197 students wrote the "junior associate" (or Grade XI) examinations. The possibility for a 'high school' education was soon extended beyond the "superior schools" to the one-room schools, and, at least in theory, every child in the province had an opportunity for high school education. In practice, however, considering both the shortage of qualified teachers, and the almost impossible task of teaching all grades in one room, the pass rate of pupils in these schools has remained low.

In the period from 1935 to 1949, under the Commission Government, and just prior to Confederation with Canada, progress continued. The old grading system was replaced by one in common use in Canada; a new curriculum was introduced; twelve school supervisors were appointed; and grants were made available to school boards for the first time for building and equipping their schools. And in 1943 a School Attendance Act was passed by the Legislature. Since that time, and following Confederation in 1949, the aim of government policy has been to offer the opportunity for every boy and girl to obtain a high school education, as well as university, and technical or vocational education.

Among obstacles to overcome have been (1) the tremendous increase in population, with Newfoundland having the highest birth-rate in Canada; and (2) the problem of isolation. Even as late as 1949, 778 of the 1187 schools in operation were one-room schools. For this, among other reasons, the Government began a road-building program to link up hitherto isolated settlements. A resettlement program was also begun, encouraging families to move to larger communities, resulting in the 'disappearing' of about 100 small settlements. New salary schemes for teachers have been introduced, which have been revised upwards on several occasions; teacher-training grants have been made

available; a network of vocational schools was established throughout the province; and a system of central and regional high schools (now numbering over 100) was begun in 1954.

When considering the most suitable type of ETV system we might adopt, we should assume that some kind of system will be initiated. We should take into consideration, however, the fact that there will be more freedom for teachers with respect to curriculum, and that an ETV solution should be applicable for what we might have five or ten years from now. Personally I feel strongly that television and other electronic devices can play an important role in our future educational policies.

As with all aspects of our schools, however, the teacher must remain the key figure. The success of any ETV program will depend in part on the express need of our schools, and the objectives must be clear and well understood by all in education, including the teachers.

I would hope that we in Newfoundland education will receive from you some very determined direction. How should we determine the need for ETV in Newfoundland, the subject areas that would best suit the needs of our schools, the use of open-circuit as compared with closed-circuit television, the use of present facilities as compared with the establishing of a special ETV station or system, and, most particularly, when and if it is initiated, how is to be evaluated? I know we all feel here that with the proper safeguards educational television can become a vital force in our educational system.

Chairman, DON JAMIESON:

Before introducing our next speaker I might point out that while it is true that Newfoundland has an isolation problem in that there is a percentage of our school population that still lives in small, and, to some extent, isolated communities, the programs to which Mr. Hanley referred have brought about a remarkable improvement over the past decade. Furthermore, if we were to adopt an ETV system, a relatively small number of television transmitters could reach the vast majority of the school population. This does not mean that the small percentage who still reside in out-of-the-way fishing communities does not pose a real problem; but, nevertheless, it would be a mistake to assume that our main educational problems are essentially rural, and, in fact, the rural aspect of our problem is probably going to get smaller as time goes by, for the reasons Mr. Hanley outlined so well.

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The College of Fisheries

DR. W. HAMPTON, President, College of Fisheries.

We have been told that this College is the only one of its kind outside Japan and the U.S.S.R.; and that it compares very favourably with the others. And yet the College of Fisheries is an infant, having opened formally in 1964.

Our registration in that first year was 150. During the past year, our second, and including our extension services, we have registered a total of about 3100 students. After our forthcoming registration (mid-September, 1966) we expect that in the coming year we will be serving about 2,500 students. — A new campus is being considered that will take from 1,000 to 2,000 students in residence. Most students come from outside St. John's. They are mostly young men who have already associated with the fishing industry and who seek a career in this industry, or they are people already in the industry who seek special training.

What is the business of the College? It is manpower development. We are concerned with technical and vocational training; we deal with the design and construction of ships of all kinds; we train people as captains, mates, etc., for any kind of ship; we train people to seek, find, and catch fish, all of which is a highly technical business; and, finally, we are in the seafood business — the business of taking the raw material and translating it into saleable products for human or animal consumption, or for industrial use.

Our business is very strongly industry-oriented, and we believe firmly in the objective of training people to raise productivity levels to their maximum so that incomes and purchasing power can be at their maximum.

The obvious reason for establishing this College is that we are caught in an era of ever-increasing technological change. We are yet a long way behind. In Newfoundland, fish has meant cod, and we are now in a period of rapid change from one species of cod to all the species of fish available for commercial exploitation. Among the changes are the following: from dry salted cod to new products using the most modern methods; from a short season of fishing operations each year to year-round operations; from small scale, family operations — small boats, few men, simple equipment — to large scale operations involving large ships and a large number of people working in an industry enterprise.

The rapid change has been from a labour intensive towards a capital intensive situation.

We are ultimately concerned with some 20,000 fishermen and 80,000 others who look to the fishing industry for their livelihood — 20% of the population of Newfoundland. To keep pace with changes projected for the next five years the College of Fisheries for the most part, and the technical schools also, must plan to train from 6,000 to 8,000 people. In the Newfoundland context the magnitude is staggering.

The main objectives of the College in terms of types of programs we offer are as follows: (1) to upgrade people already employed in the industry; (2) to prepare new people for jobs and careers; (3) in general, to train the manpower that comes to us to the maximum of their potential; and (4) to try to create a new image for the fishing industry.

To achieve these objectives we have divided our services into the following subject areas: naval architecture; nautical science, or the management of all aspects of operating a ship; fishing technology, how to find, catch and handle fish; mechanical engineering, which includes marine engineering, and stationary engineering, for operating the plants on shore; electrical engineering, where we offer courses in the use of electronic equipment, as well as all other electrical equipment that goes on board a ship; technology, where we take the raw material and turn it into saleable products; and management, industrial management, business administration, call it what you will.

Levels of training: we have two main types of courses, (1) the career type, of 3 to 4 years duration, for young men who have Grade XI qualifications at least in English, mathematics, and, hopefully, a science — courses that emphasize skill and knowledge. These men will be the majors of the future; (2) the vocational type of course, all of which are of less than twelve months duration. Some may be as short as a week. These vocational courses are designed for specific jobs or tasks that emphasize skill rather more than the knowledge required for the career type of course.

All of our students must have passed the school-leaving age of 17 since we are not in competition with the regular school system. Although most of our students are in the 17 to 25 age group, we have a large number of people above the age of 25; and this faces us with a special problem. It is unreasonable to expect them to come into the College and associate with younger men. Thus we try to reach them

through what was the Extension Service of the Department of Fisheries, through travelling schools that have been in operation about ten years. We have expanded this service and we send out teams of instructors to individual places for weeks at a time, to offer courses to older people in such things as navigation, fishing methods, fishing gear, engine maintenance, and the handling of fish.

About half of our total registration to date has been reached through the Extension Service, so it is a very important part of our program. This service needs to be expanded, and it is here that we believe that ETV may be extremely helpful. Thus when we heard about this conference we immediately set up a committee to consider if and how we might use ETV. The answer is 'yes', there is definitely a place for ETV in our program; but we need your help to find out how to do it.

A second special situation is that we have a large number of people who are past school age who have only a Grade VIII level of education. For these people, helped by a Federal Government scheme, we offer a basic training program which in nine months upgrades them to a Grade XI pass standard in English, mathematics, and a science. Roughly 30 to 40 per cent of our total enrolment is in this category. Here again we believe that ETV has special application, because surely through regular schools or the vocational schools, with the aid of ETV, programs can be worked out that can relieve us of the burden of this upgrading job, to allow us to get on with the job we are really supposed to do.

The third special situation is that we have a backlog of many people with less than Grade VIII. We have people running our trawlers who have never been to school, people running our plants who cannot read or write. How can we make progress in a fishing industry in a situation like this? This is a very difficult problem. We have attempted to solve some of this problem through deck-hand courses that will take men with the bare limits of education and put them through a drill operation to allow them within three months to serve on the deck of a trawler. We are now involved in a mammoth crash program that will ultimately involve from 6,000 to 8,000 people.

In conclusion, our present feeling in the College of Fisheries is that ETV has a very important place in our program. I think we have got to have it. We need it for the basic programs and we need it for the extension programs; and we are interested in having these possibilities explored.

Chairman, DON JAMIESON:

I wish to emphasize what Dr. Hampton has said about the rapid changes that have been occurring in the fishing industry in this province, and the problems these changes have brought with them. I have visited areas in Newfoundland were one may find, on the one hand, a fishing community of perhaps from ten to thirty families, still living in comparatively primitive conditions, whose techniques of fishing have not changed in perhaps a hundred years, while no more than five or six miles away will be found one of the most modern fresh-fish freezing plants in the world, supplied by huge, highly efficient draggers which can bring in as much as 350,000 pounds of fish in several days. Unfortunately, however, while we have a surplus of "shore" fishermen in the elderly age group, operating on a hit-or-miss basis, we are running into a very real manpower stortage in the demand for skilled people to operate the draggers and shore establishments. As Dr. Hampton has so clearly pointed out, we need some way, perhaps through ETV, to train more of the unskilled fishermen to get them on board the draggers and trawlers, and to operate shore plants.

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The College of Trades and Technology

K. F. DUGGAN,

Principal, College of Trades and Technology.

In this brief review of the progress of vocational and technical education in Canada I shall begin by referring to the Royal Commission of 1910, appointed to study this subject, the result of which was the passing of legislation leading to federal-provincial action in promoting industrial and technical education. Federal assistance, relatively small at first, has grown over the years in support of many different programs, such as apprenticeship training, supervisors of industry, youth-training projects, vocational training at the secondary school level, and agricultural training. It was not until 1960, however, that legislation was enacted to enable provinces greatly to expand vocational education facilities. The main motivation was the crisis in the manpower situation in Canada, particularly skilled manpower, brought on primarily by rapidly accelerating technological changes in the post-war years. With the passing of the "Technical and Vocational Training Assistance Act" in 1960, the Government of Canada announced its willingness to spend several hundred million dollars in training and retraining. Later in 1960, with the Federal Government prepared to pay 75% of costs, the Government

of Newfoundland planned to build the College of Trades and Technology and eleven district vocational schools, located in various parts of the Island, all of which were opened in 1963. (The need for a College of Fisheries was also quickly seen, and as Dr. Hampton has mentioned, this opened in 1964). The district vocational schools vary in size, from eight to twenty shops, and they do not all offer the same range of programs. The College of Trades and Technology has 65 shops and laboratories. With these facilities the province has almost 4,000 training places.

The district vocational schools all offer, free, trade courses. One district school, in addition to the trades courses, offers an upgrading program, the basic training for skilled development training (which Dr. Hampton mentioned), a program to upgrade in English, mathematics, and science. The College also offers free trade courses, basic upgrading courses, and, in addition, apprentice training. The apprentice training (unless sponsored by a private company in association with the College) is in cooperation with the Apprenticeship Branch of the Department of Labour, and is on a block-release basis, whereby students come into the College for periods ranging from 4 to 12 weeks, depending on their trade and year of apprenticeship.

The College also offers two-year post-high school courses in business, and engineering technology. We have three courses in business and eight in enginering technology. In cooperation with the Department of Health, and several hospitals, we offer three-year courses in x-ray technology and medical laboratory technology.

At the College this year there will be 600 students in the pre-employment trade and upgrading courses, 350 in technical level courses, and from 100 to 150 apprentices at any one time. The district schools expect a total enrolment of between 1,500 and 2,000 daytime students. All schools have evening programs, and the College carries out some extension work.

Considering types of subjects offered, we have several courses for which the College is the only centre in the province. A common course in all schools is "shorthand-typing"; nine schools have carpentry; eighthave basic electrical courses; five have heavy duty equipment; ten have automotive; four have beauty culture; three conduct barbering courses etc. In all, we offer approximately 35 different trade and occupationa courses, and 13 courses at the post-high school level in which we award a Diploma of Applied Arts, or a Diploma of Technology.

All these district vocational schools are *trade* schools, in the usual connotation of that term, and not the somewhat more academically oriented vocational high schools. There are no vocational high schools or composite high schools, as these terms are usually understood, in the province as yet.

Students coming into our district vocational schools are, then, either graduates or drop-outs from the academic system. The vocational courses require from Grade VIII to Grade XI for entrance, depending on the trade; but lateral transfer from the academic system is not encouraged unless the student has reached the full height of his capabilities in that system. Thus we may have students who have completed high school competing with Grade VIII drop-outs. The problem of offering instruction in such subjects as English, mathematics, and science, to a non-homogeneous group has presented quite a challenge to us, especially since there is only one class in any one subject in each school. This, then, is one of the problems where ETV might be of assistance to us, and I would like to discuss this further as the conference develops.

We are faced with a problem, also, in courses in the medical and engineering technology fields, in that in many cases students do not have the proper background in science. We accept many students for these courses without their having taken physics or chemistry at the Grade XI level, and because much of the instructional material is based on these two sciences, such students encounter difficulty. For such students we are planning a pre-technical year; but up to now lack of qualified instructors, and lack of space, have kept up from doing this.

As with all areas of education today, we are experiencing difficulty in obtaining highly qualified teachers, especially at the professional level.

Ages of our students range from 16 to over 50, with the majority falling in the 18 to 19 year group. There are many people, however, especially adults, who may not be able to come into school for training or upgrading, and there are many working in technical fields requiring upgrading or updating who cannot attend either day or evening classes because of distances involved. To help solve these and other problems facing us, I certainly look forward to the outcome of our sessions here to see what ETV may have to offer Newfoundland and Labrador.

Chairman, DON JAMIESON:

In supporting Mr. Duggan's remarks about the pressing need of skilled workers I might mention the valuable service already performed by the College of Trades and Technology and the district vocational schools throughout the province. An example of this is in one district where at the moment a multi-million dollar shipbuilding project and a fishing plant are under construction at the same time. In this case the district vocational school has geared its training projects to the needs of the area. Draftsmen, and others needed for construction work, for example, have been graduated from that school. But nevertheless the impressive figure of 4,000 training places is still inadequate in terms of the needs of Newfoundland in the next decade; and a question before us is, can ETV increase the number of people who must get this kind of training?

The Teaching Profession

DR. SHERBURNE G. McCURDY, Newfoundland Teachers' Federation, Former President, Canadian Teachers' Federation.

As a general preface before considering several questions suggested to me I wish to say that we at the primary, elementary, and secondary levels of education are engaged in the business of general education. What we do will influence not only how well our children will read and cipher and solve problems, but it will also influence attitudes and values, such as how they will react to other people, perhaps to handicapped children in their midst, and how they react to racial and religious questions. If we do our jobs properlý this adds up to a well rounded education.

(1) My first question: "What limitations have stood in the way of placing well qualified teachers in Newfoundland schools?" The factors in reply concern questions of supply, material and working conditions, and social considerations.

The first supply problem has always been the limited pool of matriculants from which to draw teachers. This has been improving, and will probably continue to improve if the material and professional rewards for teaching can be made competitively attractive. The second supply problem concerns retention of qualified teachers; and here again material and professional rewards are important. A third supply problem has been the lack of an effective and systematic recruiting policy and program.

Material conditions: a number of social, material, and working conditions conspire against attracting and holding teachers in many of our smaller communities. (a) Chief among these is the prevalance of small, poorly built, badly equipped, and ill-kept schools. (b) There is a lack of satisfactory living accommodations. Theoretically, the province has a loan fund from which school boards may borrow for the construction of teacher accommodations; but, in practice, a total of only \$1500 is available for this year, while applications to date total at least \$10,000. If there were a real awareness of this problem the applications would figure in the millions. (c) Overcrowded classrooms and excessive teaching loads are a third factor — often the deciding factor — in the teacher's decision to leave the profession. (d) The lack of effective direction by many small school boards. Only this summer the Newfoundland Teachers' Association (NTA) won a lawsuit for salary denied to a teacher because the school had been closed for 10 days for lack of fuel. There are sometimes of course incidents involving unprofessional conduct on the part of teachers, and we must work on a cure for both these ills. (e) The social and professional isolation of a teacher living and working in a remote fishing village, lack of professional supervision, and the opportunity to compare notes with a professional colleague, are among other factors. The NTA has attempted to encourage professional contact through local workshops, meetings, etc., but much remains yet to be done. (f) The lack of ancillary services, such as nursing, medical and psychiatric assistance, inadequate even in our larger centres, is a further factor.

Some of these material irritants could at least be mitigated if provision were made for the teachers, through the NTA, to negotiate collectively with the school boards. At present, individual teachers, whose salaries are determined in relation to a provincial salary scale, deal with individual school boards, with little reference to a discussion of working conditions.

The most significant factor, however, lies in the refusal of much of our society to accord to the teaching profession the prestige and status already enjoyed by other professions. One of the reasons for this is of course that only a relatively small proportion of our teachers are classified as being fully qualified professional persons. It is incumbent upon all of us, the NTA included, to change this proportion as rapidly as possible.

- (2) "How well qualified are Newfoundland teachers today?" The total Newfoundland teacher population for 1965-66 was 5,543. About 800 have university degrees. About 3,000 are certificated with the following periods of training: 2,000 with Grade 1 certificates, representing one year's training at the University; 700 with a two-year training period; and 325 with a three-year training period. A further 225 have an "A" license form of certificate, given to teachers who are one credit short of first year teacher-training at the University. This leaves approximately 1,750 people serving as teachers who do not have the minimum one year's training or the "A" license. In addition there are some 250 emergency supply people who may well have no training whatever. This is a grave situation; and even the most sturdy advocate of ETV would quail at the thought of relying on these people to play a part in the team approach to ETV.
- (3) "What are the main problem areas for teachers in Newfoundland?" In addition to the problems already noted are the following: the lack of qualified supervisory personnel, department heads, and guidance counselors, the lack of consultants and specialists for some subject areas, and the lack of an effective training program in the basic elements of administration and supervision. A further administrative problem is the unsatisfactory pupil-teacher ratio. This is particularly applicable to the junior and senior high school level, especially in the smaller schools. A further major problem concerns curriculum. Here there is a lack of a clearly enunciated theory of curriculum development, and particularly a lack of-qualified personnel in our Division of Curriculum in the Department of Education. One of the most persistent obstacles in the development of a viable curriculum policy lies in the examination system; and until the examination machinery and procedures are revised, and, if necessary, completely overhauled or even eliminated, ideas advanced at present for curriculum improvement will founder. As things stand teachers are encouraged to sacrifice their good judgment, sometimes their professional integrity, to meet the pressure of administrators, school boards, public policy, and the general public attitude for better examination results. In no area of education is the appeal to reform more urgent.

Problems in communications: the geography and demography of Newfoundland and Labrador pose many obstacles to effective communication. Despite time and effort over many years, for example, the NTA has not really come up with a satisfactory solution to the problem of isolation of teachers. The existence of a vital professional body of teachers is in large part dependent upon a free and constant twoway communication between the organization and its members. What applies to the teacher organization applies also of course to the whole school system. One wonders what the consequences would be if an ETV network were superimposed upon the shaky administrative and communications network we now have.

(4) "What might we expect the attitude of teachers with no previous experience with ETV to be towards its development in this province?"

Before considering this question I wish to refer to a research project reported in a recent issue of the "Audio-Visual Communications Review," where an experiment had been conducted in an attempt to establish teacher attitudes about ETV. A basic question considered was whether or not ETV poses a challenge and/or threat to teachers. After considering such factors as economy, instructional side benefits, partnership between television and classroom teachers, responsiveness, parental influence, security of classroom teachers, invidious comparisons, experimental aptitude and in-service training, the research team reported that "on the whole the teachers' attitudes were highly favourable to instructional television, and consistently rejected the idea that the TV teacher represents a threat to the classroom teacher."

Concerning Newfoundland teachers, first of all I believe teacher reaction would be influenced by the way in which ETV is introduced, by the extent to which they participate in its control and implementation. There is a need, first, to enlist the interest and sympathy of the existing teacher force, to make them feel that broadcasting is not an alien element, still less a usurper of their positions, but is an instrument to be used. Secondly, I believe teachers' reactions would fall largely into two categories, these being determined to a considerable extent by the professional qualifications, teaching experience, and present teaching position of the teacher concerned. I base this not on research evidence so much as a tentative, but reasonably careful analysis of attitudes in the NTA. The poorly qualified teacher of little experience, for example, isolated from professional colleagues and professional leadership, might well look upon ETV instruction coming into his classroom as a panacea, and ignore his vital role as a classroom teacher. There has been widespread misuse of educational radio and film in the past, and the same thing could happen with ETV. For the highly qualified teacher working in a relatively large school system, reaction might range from enthusiastic to critical, perhaps even hostile or completely indifferent. This would depend on his feeling of participation.

We should ask what is unique about ETV. Can the television teacher do the job better than the classroom teacher? Who is producing the program? Is it woven into the syllabus, or, better still, has it been a factor in improving the syllabus? Will students be better equipped to write the public examinations? Is ETV more effective at the elementary level than at the high school level? Is it more effective in some subject areas than others? Will it turn us into ciphers? Will we have the proper equipment? Who will control this new medium? What kind of training will we need to benefit from it? Administrators will of course want to know what the implications are for scheduling classes, and the perceptive administrators will ask questions about the way in which their control of the school situation may be slipping from their grasps and moving more and more to a centralized control.

I would suggest that, despite Marshall McLuhan's contention that "the medium is the message," many teachers will agree with the following statement made by officers of the North Central Association of Colleges and Secondary Schools in the United States:

"Television has no magic, no matter how complex its electronic processes may be. Television is simply another medium of communication, like a book or a human voice. Communication begins with an intelligible transmission and ends with intelligent reception. Any medium of communication is but a middle link between two or more minds. Perhaps the secret of TV is that it establishes the linkage on a number of senses rather than one or two; but link it is and link it remains. The medium may be a gesture of the hand, sound waves from the human larynx, impressions of moveable types arranged on the pages of a book, radio waves transmitted and gathered into a receiver, or electronic emanations or receptions involving television equipment. It is nevertheless properly viewed by the educator as simply or actually or possibly an intermediate link in the total act of educational communication."

I would further suggest that large numbers of teachers would also agree with this statement (and I quote again from the same source):

"If television can help bring about the teaching of more pupils by better teachers, and accomplish this as effectively as other methods, or more effectively at a cost within reasonable limits, it is incumbent upon educators to examine this possibility with great care. If television can alleviate school population pressures, make our best teachers available to more learners, save dollars in conventional school plant costs, make the process of learning more effective and satisfying, and provide a wider range of experiences than hitherto possible—and there is good reason to believe that, if wisely used, it can do all these things—then certainly all educators should move as rapidly as possible in their own planning, and through their own local boards of control and legislatures, to secure the benefit of the medium."

This, I hope, suggests a willingness on the part of teachers to cooperate to the maximum with all concerned in the assessing of the part that ETV may play in our community. We would expect that such cooperation would be reciprocated by willingness on the part of authorities to recognize the rightful place of the teachers both individually and collectively in assessing, granting, and implementing ETV in the province.

(5) My final question deals with teacher education: "Are there possibilities that ETV could be used to train teachers as well as students?" The answer would seem to be an emphatic "yes"! It can be, and indeed elsewhere is used on a closed-circuit basis for teacher training. It would also be possible to use open-circuit ETV for in-service training of teachers already in the field, especially in dealing with new methods and new developments in curriculum. A less obvious outcome of teacher training occurs when the classroom teacher has the opportunity to see a good television teacher at work.

A further dividend from the use of ETV in teacher training institutions is in the teacher's becoming familiar with the medium, its strengths and limitations, and how children actually learn from television, how to compensate for such limitations as the lack of adequate 'feedback', and how to offset the danger when students might become passive spectators instead of active participants in the educative process. On the other hand, teacher preparation should assist the teacher whether he is in the studio or in the classroom to capitalize on such great advantages of ETV as the sharing of good teachers, its superiority in providing close-up views and demonstrations, and the opportunity it gives the studio teacher for careful planning of the TV lesson. Finally, the teacher who has come through teacher training institutions which have taken ETV in their stride, which have utilized its advantages and taken account of its limitations, will undoubtedly be much better able to cope with the challenge of the TV era than the teacher who has not had such experience.

Let me conclude my remarks by assuring this gathering and especially those having to do with the future of educational television in the province that the teachers of Newfoundland are prepared to take an active part in exploring the possibilities of ETV as a means of raising the level of education of our young people and of our teachers. The Newfoundland Teachers' Association will also seek representation on any agency or governing body set up to control ETV, and will demand for its members the right to be consulted about any decisions which in any manner impinge upon their areas of professional competence.

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Discussion Session

EDITORIAL NOTE:

In this section, as in the treatment of subsequent discussion sessions (with the exception of the final one), I have not attempted to present an abstract of the full session, but I have selected only a few of the most relevant of the many important points that were made.

Although names are cited of the delegates who raised, and responded to the following questions, the questions and responses as recorded in this and subsequent discussion sessions are highly generalized paraphrases of the original statements, and again, I must take full responsibility for the language of this abstracted version of the proceedings.

(1) W. J. McCallion (McMaster University): What percentage of homes in the province can receive television?

Don Jamieson: We have a private and a public television service, each of which covers approximately the same number of homes. About 75% of the 90,000 to 100,000 homes in Newfoundland and Labrador are able to receive a television signal.

(2) Bruce Raymond (CBC, Toronto): How many of the schools in the province have television sets?

Don Jamieson: There may be occasional sets in recreation rooms of the larger high schools, but to my knowledge there is no regular use made of television as a teaching medium.

- (3) I. GILMAN (BBC, London, England): May we have information about other audio-visual aids used in the schools?
 - (a) P. J. Hanley: Some years ago we instituted radio programs for schools, and we heavily subsidized the buying of radios. Probably 70% of our schools have radios.
 - (b) PAUL O'NEILL (CBC, Newfoundland): Between 4,000 to 5,000 students listen every day to one or more school broadcasts.
 - (c) K. F. Duggan: There is provision within the Department of Education for the distribution of other types of audio-visual aids, such as tape recorders, overhead projectors, filmstrip projectors, etc. At the College of Trades and Technology extensive use is made of audio-visual aids, to the point where we are now appointing a supervisor to coordinate their use. The use of such aids by the College of Fisheries is similarly extensive.
 - (d) Don Jamieson: There is no integration of audio-visual aids at the provincial level, however, with respect to basic curriculum.
 - (e) S. G. McCurdy: As I have mentioned, we lack qualified people to promote this kind of activity.

- (4) Mrs. John Jaeger (Cleveland, Ohio): Has the province any plan for in-service teacher training for updating the curriculum, in, for example, the mathematics program; and has any thought been given to using ETV for this purpose?
 - (a) S. G. McCurdy: We are not yet deeply involved, but the introduction of the 'new mathematics' program has been dealt with in a variety of ways. Especially during the past two years some school boards have conducted their own in-service programs; and the Department of Education sponsored the televising on Saturday mornings of series of lessons in the 'new mathematics' program. Teachers are becoming increasingly interested in curriculum development and the Newfoundland Teachers' Association is sponsoring a seminar on this subject in November, 1966.
 - (b) G. A. Hickman (Dean, Faculty of Education, Memorial University): With reference to the use of ETV for instruction in the 'new mathematics', the Extension Department of the University will present a series of at least ten programs beginning this fall, primarily for the benefit of parents. We have been working with teachers in the field for the past five years preparing them for the 'new mathematics', and we plan special programs for teachers in the summer sessions. ETV has also been used for updating the working methods of adult citizens, especially fishermen, who are unable to attend classes. The College of Fisheries and the University have cooperated in such ETV activities through their extension services.
 - (c) Donald Snowden (Director of Extension Service, Memorial University): The television series, "Decks Awash", planned primarily for fishermen, has been presented over the private network in Newfoundland for the past six years. It is not a formal training program, no credits are offered, and the topics cover a broad field of interest with the objective of making fishermen familiar with basic changes taking place in their industry. Since there are very few extension workers active in the smaller communities it is only through programs like "Decks Awash" that outport people are able to get information that is basic to the way they are going to live in the future.
- (5) W. R. WILSON (Technical Adviser, BBG): Since quality in programming is a basic matter it would aid tremendously if the four Atlantic provinces could spread their resources; thus I wonder how much cooperation in ETV is seen to be possible among the four provinces.

- (a) Don Jamieson: I believe that such cooperation should be utilized to the maximum extent. It seems to me that we do not have all that much in the way of resources that we can afford to be doing four science classes, four French classes, and so on, for each province. There may of course be specific matters peculiar to each province.
- (b) S. G. McCurdy: I am not impressed by the claim for curricular independence within a geographic or political community. In too many respects the extent of such independence centres around our power to choose one set of text books instead of another. I feel we should do our utmost to cooperate and share programs with other agencies whether they be in the Atlantic area, the Pacific area, the United States, Europe, or anywhere we can obtain good materials for effective education.
- (c) P. J. Hanley: For some years there has been cooperation in some areas of education among the four Atlantic provinces. The directors of curriculum have met frequently to discuss a common curriculum. In radio education, for example, there is a series of broadcasts agreed upon by the four provinces. This has not yet been accomplished in television, largely because Nova Scotia has forged ahead with its ETV program, offering direct teaching closely tied with their curriculum; and the Nova Scotia curriculum, especially in mathematics and science, does not coincide with ours. In Grade XI mathematics, for example, our children at the end of the school year would be about 80% through the curriculum offered in Nova Scotia.
- (d) Bruce Raymond: As one who is concerned every day with the budgeting of television programming, which includes the network school broadcasts done by the CBC, I would like to emphasize as strongly as I can that one of the most important considerations that this and similar conferences must face during these next few years is the attack against fractionalization of our resources, both financial and human, in preparing programs.
- (e) Murray Chercover (Executive Vice-President, CTV Television Network): This comment relates to Mr. Raymond's concerning resources. A series of programs on the 'new mathematics' in Ontario was beamed to school teachers and adults at home, and I wonder why you would not anticipate using such material.
- (f) ARTHUR KNOWLES (Executive Director, Metropolitan Educational Television Association of Toronto): In reply to the question as to who produced and planned the Ontario 'new mathematics' program,

this was the responsibility of the Ontario Department of Education with the cooperation of CFTO-TV, Toronto — In considering the most effective ways to make full use of our resources we should remember that for the past ten years there has been in existence the National Advisory Council on School Broadcasting, a cooperative venture of the Canadian Education Association and the CBC for the purpose of developing programs for the national schools broadcasts. — One of the points I would hope would be raised for discussion during this conference is the feasibility of national educational television bodies and regional bodies to promote cooperation and the pooling of our resources.

- (6) P. A. O'Flaherty (Associate Professor of English, Memorial University): Although I am a teacher by profession I have had no professional contact with ETV, therefore I do not claim to be an expert. What I find disturbing about the conference so far, however, is the general assumption that ETV in whatever form it takes is a good thing. I would suggest that ETV is neither bad nor good, it is a neutral thing and its goodness or badness would depend upon who administers it. Who will administer an ETV network the government a government? What disturbs me is that an ETV network at the primary and secondary level of education would be a very effective weapon for propaganda if the Government were inclined to use it as such. I can think of some provinces in Canada into whose hands I would hesitate to put a network of this kind at such a low level of teaching.
 - (a) Don Jamieson: This is a matter that will be more fully discussed on the last afternoon of the conference when we deal with this matter of governance. You of course have touched on a very controversial issue in the whole field of educational television.
 - (b) S. G. McCurdy: I agree that the TV medium is a neutral thing, and it is we who determine if it is good or bad; and I, too, am very interested in who the "we" shall be. My second point is that the teachers of Newfoundland are not prepared to concede that the Government will control ETV. Obviously it must have a profound voice in it because it is entirely possible that we will be looking to Government for funds; although this is not completely necessary because there are countries in the world where funds are raised for extensive ETV networks, financed by resources outside political control entirely. Nevertheless those of us involved in the teaching profession are by no means prepared to concede that automatically

educational television is to be controlled by the Government in this province.

(7) The Hon. H. R. V. EARLE (Minister of Education, Province of Newfoundland and Labrador): In the field of education, the Province of Newfoundland has certainly shown that its Government is most interested in any progressive steps. This is indicated clearly by the fact that our budget in education has risen from \$3 million in the first year of Confederation, 1949, to \$44 million in the present year. There has been a jump of \$12 million in the current year in the expenditure for education. Now I am quite sure that my Government is most interested in all progressive steps, and this conference will probably come down to a matter of dollars and cents... I think that this is the whole purpose of the conference, and when recommendations are made, if they appeal to my Government as being sensible recommendations for the progressive development of education in this province, I feel that, in view of our past performance, I will not have too much difficulty in selling such ideas to the Government.

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CHAPTER II

ETV SYSTEMS AND PROGRAMMING

From the session chairman's introduction

L. J. LAWLER.

Head of Production.

Centre for Educational Television Overseas, London, England.

In discussing ETV systems and programming we must keep in mind that in the context of this conference we are talking about ETV in terms of teaching instruction. The term "educational television" has a wider connotation in the United States than is currently accepted, for instance, in European countries. We are talking about what the Americans call instructional television (ITV), about the use of television in order to help teachers at all levels perform their jobs better.

* * *

Varieties of ETV Systems and Programming: Introduction

DR. W. E. BECKEL,

Dean of Scarborough College and Professor of Zoology, University of Toronto.

What we are concerned with in this conference is information transfer and development of attitudes in large numbers of people in situations where face-to-face teaching is now difficult or impossible. How best can we do this?

There is no doubt in my mind that the answer lies in educational television, or television teaching supplemented with other media and complemented by individual student homework either by conventional exercises or by computer. And yet, many reports suggest that ETV has not lived up to its earlier promise. I think I know why. Only rarely has an institution committed itself sufficiently to television as a means of teaching. Instead, television tends to be used as a supplement, and then

rather apprehensively, to old established methods. This has meant that relatively inadequate facilities coupled with inadequate programming have been used. To get the full potential from the medium there has to be a positive dedication to its use. There has to be the best in *facilities*, in *programming*, and in *viewing*. Above all, there must not be any faint-heartedness at the top administrative level. To achieve the maximum potential there must be a blend of technology, artistry, and scholarship. This is not an easy mix, but such a mix there must be.

Distribution: there is a variety of possibilities to distribute programming, such as via the standard Very High Frequency channels (which are limited in any one community); Ultra High Frequency channels where available (channels 14 to 83); by uni-directional, or omnidirectional microwave hookup to a closed circuit system, or to a local broadcast system. But with distribution involving broadcast transmission, the number of programs you can make available in any one hour is limited. On the basis of needs expressed in this morning's session we would probably need at least ten different programs per hour every hour of the week; so we must consider other possible methods of distribution as well. If a very high resolution picture is required it can be achieved by producing it live from a nearby studio and distributing it on high quality cable in a closed-circuit system, or by shipping high quality videotapes from place to place and playing them on closed-circuit cable. We also should consider mobile vans with videotape machines that can make contact with local closed-circuit systems or local broadcast systems. These vans may be used for production purposes as well as simply playing videotapes. Kinescopes, which of course do not have the high quality resolution of videotapes, might also be used wherever there is a film projector and screen.

Viewing: there are two major acceptable methods of viewing, either on monitors similar to the home television set, or on a large screen on which the television picture is projected. There are systems in use where every student has his own small monitor, or where a number of twenty-four inch monitors serve a group of students; or, as I have mentioned, where in a large lecture hall perhaps a thousand or more people can view a large screen.

Distribution and viewing of film, or motion pictures, is as easy as any mail or express system, and wherever a room and film projector are available. Since there are many good films available good education can be achieved through films. However, the cost of production is high

if new films are to be made; and films are often dated, and less spontaneous than television presentation, and the darkened room, where note-taking is difficult, is a further drawback of film. But the addition of film in the televised program makes a very useful blend of both media.

A common complaint about ETV is its lack of give-and-take with the teacher. Analysis of questions asked in face-to-face lecture sessions, however, shows that most of the students asking them either already know the answers and are just seeking recognition, or that the questions are spurious to begin with, and easily answered by the student if he thought about them. Nevertheless, there are genuine, worthy questions, so how do we get them asked and answered?

We are beginning at Scarborough College a system whereby the student anonymously writes out a question, usually at his leisure and perhaps after he has discussed it with fellow students. The professor accumulates these questions for a week or two and then devotes a full program to answering them. We seriously considered installing an elaborate question-and-answer system for immediate use during and after a lecture, but we found that many studies on this subject show that such systems are simply not used by the students. I hope our method will produce a satisfactory answer to these problems.

However, there is often a real use for response stations associated with each student during TV teaching. These are of course useful only with closed-circuit TV. They consist of a number of buttons the student can press in response to questions or other stimuli presented on the TV screen. The student response goes into a small calculator which can make available in seconds individual student performance, in response, for example, to multiple choice questions, or it can make available the total class response. This is a fairly expensive installation, and would cost at present about \$10,000 for a 250 seat lecture theatre; but it has exciting possibilities. It could be used, for example, for the examination of large numbers of students.

Another new instructional tool that may be used in association with TV teaching is computer-assisted instruction (CAI). A special typewriter and a telephone link to a large, central computer, in which a large number of subjects may be programmed. All you have to do is type a code for the particular subject you want, and the computer begins to 'talk' to you about that subject. The typewriter can be used twenty-four hours a day by a number of different students. There are many people awake at all times of the day and night, some of them on

shift work, and it is rather a shame that more effort is not being made to allow people either to learn on the job, or to learn when they have leisure time, at any hour of the day.

Facilities: in considering methods of presentation and facilities such as are in use in Scarborough College, perhaps the first to consider is the use of a TV camera simply as a tool for image amplification or image magnification. The teacher in the same classroom with his students may show them a piece of rock, a small animal, or a page from a book, etc. He places the specimen under a television camera and the image appears either on a large screen or on a series of monitors. With this valuable method the professor handles all the equipment himself.

The second system we use is perhaps best seen as used for laboratory instruction for students before they handle the tools of the laboratory themselves. The professor is in a small studio fully equipped with laboratory equipment, in which there are two cameras as part of a television system that brings with it all of the aids a teacher needs, such as a telecine chain and slide-changing machines that can permit the showing of film or slides, and videotape recorders that may allow the introduction of pre-recorded demonstrations. One of the cameras may be an over-the-table type that can project and, via a microscope attachment, can magnify specimens. This kind of system may of course be used for social science and humanities subjects as well. Again the professor handles all the equipment himself, perhaps with the help of one operator; and it is a remarkably simple procedure to teach professors how to use this equipment.

We also do 'informal' lectures 'live' from these small studios when the classes are so large that we must divide them into sections. There are other universities in Canada in which this kind of 'informal' television is presented from the front of a lecture theatre or laboratory full of students, and transmitted to two or three other theatres or laboratories. I do not think this is the right way to do it because television, despite other views we heard this morning, is, in my opinion, not a neutral medium. It is definitely something that "has a message", to use the McLuhan phrase. Content and medium are certainly interlinked, and there is no sense using this medium just to project the regular old classroom technique.

Our fourth method is what we call 'formal' lectures. This at first might not sound much like 'kicking over the traces' of established educational practices. We require first, however, that the lecturer must have at least one year's face-to-face experience in the 'live' classroom. During that year we audiotape and transcribe all of his lectures, making a record at the same time of all the visuals he has used. At this point the teacher in concert with the producer-director edits the typed script and suggests any new visual material. The producer-director then attempts to make a television program from the transcript, with, again, close consultation with the teacher. All visual material is produced by a staff who handle graphics, building of models, preparing slides, etc. A finished script is given to the teacher and he comes to the studio ten minutes before programming, with perhaps no more preparation time required than if he were to give the lecture for the second time in a second year. If the professor insists we produce a full teleprompter script for him. Without rehearsal the lecture is recorded on videotape, and it is then considered to be a successful program for a three year period, with as much as 10% per year editing privilege for updating or changing the lecture at the teacher's discretion.

There are at present at least six universities in Ontario very much involved in television teaching, and there are some high schools and public schools also using closed-circuit systems. The Department of Education of the province is engaged in the setting up a province-wide ETV network aimed primarily at secondary and primary schools. This suggests that there has to be some kind of coordination. In the universities we have set up a body called the Television Council, established by the Committee of Presidents of Ontario Universities, to attempt to coordinate installation of systems, in order to get compatibility of equipment that will allow us to interchange tapes among universities. This kind of coordination should allow us also to integrate with the provincewide distribution system so that our offerings at the university level can be used in adult education or any other area where they might be useful. There is of course no need to stop at Ontario-wide cooperation and coordination. As was mentioned this morning, surely we need a nationwide system.

There is no doubt in my mind that while the use of television in education is not simple, it nevertheless is a worthwhile venture. In some respects, I should point out, it can be very economical. I have demonstrated that within five years we can save a million dollars a year within Scarborough College. At first sight the costs will seem very high indeed; but when you realize what can be accomplished with television and its allied media, the costs can be justified.

To finish where I started with my act of faith, I don't believe that there is any better way at the present time to bring education at its many levels to as many people.

Session Chairman, L. J. LAWLER:

With reference to Dr. Beckel's mention of computer assisted instruction's being related to closed-circuit ETV, some institutions in the United States have been considering a plan to relate the media as follows: when a student asks a question that might be difficult to describe in words, and which might need illustrations or perhaps a set of statistics, the lecturer or one of his assistants may appeal to a computerized information centre and receive the answer on a monitor in the lecture room. This will of course be expensive and will have to be widely used to make it economical, but it is an exciting example of what can be done with CAI in relation to ETV.

Varieties of ETV Systems

THEODORE R. CONANT, Director, Special Educational Services, WGBH-TV, Boston.

There are a great many animals in the ETV zoo. The words "educational television" and "instructional television" mean a wide variety of things, ranging from a simple inexpensive system perhaps serving a rural school, to a national production system, with a high professional standard, aimed at the entire country. This wide variety will be apparent in the film material I am about to show you.

The first excerpt is from a recently finished film, "Comment savoir," by the Canadian film-maker Claude Jutras, a man of great sensitivity. This particular sequence deals with the closed-circuit ETV system centered in Hagerstown, in Washington County, Maryland, a county with only some 21,000 school children. The ETV system links forty-five schools to the Hagerstown studios, which can send out six lessons simultaneously by cable to more than 800 sets throughout the county. The programs are done inexpensively both in terms of equipment and human resources. There are people who feel that this system is not making the contribution it should make, and that it would be better if it produced fewer local programs and drew more from national

production centres. This is of course one of the controversial areas in the ITV picture, and I raise it because I think you should bear it in mind as we view this film sequence.

(The film sequence is shown, depicting student involvement in the production of programs, as producers, directors, and camera crews).

The teacher in this sequence does not need the kind of support that Dr. Beckel was talking about in terms of studio specialists in order to make an effective television presentation. Many of the programs, however, are quite amateurish, and since the equipment used is well below broadcast standards very often the transmission itself is substandard. Contrary to the information supplied by some companies, closed-circuit equipment creates many problems, as many as does broadcast transmission. It can be very good, however, if one uses first-quality equipment.

The next film excerpt is from a film, "Child of the Future," that I was privileged to do at the National Film Board of Canada in 1964. In this excerpt, with Marshall McLuhan as a commentator, you will see three examples of school television, not at its best or at its worst, but average. The first example is from the Midwest Program on Airborne Television Instruction (MPATI), a system of beaming Ultra High Frequency transmission of television lessons from videotape recordings in an aircraft, with the aim of covering a six-state area. There had been difficulties with transmission in this system, but it has worked out fairly well and many schools are now, in fact, receiving excellent reception from the airborne transmitters. Because of the expense of the 'hardware', however, (over \$10 million) very little money is left for program production; and in the film excerpt you will see a Spanish lesson that had been produced very inexpensively. In this case the TV teacher was under great pressure to do the programs quickly. You will also see two examples, one from the state-wide ETV project in South Carolina, one of our poorest states, and the other from Anaheim, California, a suburb of Los Angeles (where Disneyland is), with a slightly smaller system than the Hagerstown project.

Before showing this excerpt, I would like to read you a bit of what Pat Pearce said about it last year in the Montreal "Star", following its presentation on the CBC. She makes several points which you should keep in mind when you watch this excerpt, especially since it is but an excerpt from a larger film.

"'Simulation of classroom conditions is the last thing that television should be used for,' said Marshall McLuhan recently on a fine National Film Board film on the uses of technology in today's teaching. He said that after watching some samples chosen by producer Ted Conant of some current television school education. A self-conscious young man in a classroom talking Spanish over the Midwest Airborne Television system, a South Carolina woman teacher putting an equation on the blackboard and then holding up a cone to illustrate a mathematical point, another teacher surrounded by test tubes demonstrating an almost invisible experiment. They were tough examples, and I'd be tempted to suspect that Mr. Conant chose them on purpose1. He certainly could hardly have done better if he'd wanted to show how putting this kind of television into a classroom is no answer to the educational problem of today's growing mass of young scholars. Even the most eager young mind would be bored to death and develop an instant loathing for mathematics and Spanish to boot. Conant did not, however, only show television in the classroom is a waste. Indeed his aim was to indicate how this, as with other mechanical aids, can or should contribute enormously both to the child's speedy acquisition of knowledge and the development of all of his own individual resources. There were lots of fascinating things to see in it and we'd be quite happy to see Conant and the NFB do more and more studies of today's education and its possibilities."

You will see that I am not wholly against ETV in this film, and I end it with an example from Japan. The Japanese, I believe, are the world's leaders in instructional and educational television today. NHK, the Japanese Broadcasting Corporation, is engaged in a wide variety of educational programming (which you will hear about later from Mr. Nemoto of NHK) and I think some of their work will be fruitful for you to investigate. Anyone interested in school broadcasting would do well to write to Tokyo to get the wide assortment of material that NHK makes available in English.

FILM EXCERPT WAS SHOWN AT THIS POINT

Currently, with our Special Educational Service Division at WGBH-TV, we are involved in a number of schemes of relevance to this conference. To deal with a growing demand we produce and distribute highly specialized program materials for instructional purposes. We design, construct, and operate specialized educational communication systems. For example, we have just finished the design of a closed-circuit cable network for Harvard that will handle not only television for teaching purposes, but such things as long-distance Xerox and computer information, as well as certain kinds of electronic information necessary for research. In addition we are putting on the air a UHF channel that will deal entirely with point-to-point educational communication, such as programs for medical doctors. We have been doing

¹ "Which of course he did," Mr. Conant inserted.

for years now a program called "Boston Medical Reports," that includes audio feedback via radio and telephone, and we plan similar programs for civil servants, scientists, etc.

We are much concerned with methods of distribution, such as the satellite services recently formally proposed to the Federal Communications Commission by the Ford Foundation. The proposal is for the transmission not only of cultural programs, such as those produced by the CBC and BBC, but also live instructional programs at all levels of education. These materials could then be recorded locally for use in schools, universities, etc.

Another development concerns the study of ETV and ITV in the United States by the Carnegie Commission on Educational Television. Their sub-committee on educational technology has confirmed reports "that inexpensive methods of recording and playback for colour and black and white television programs will be available shortly and that these methods may bear to visual presentation the relation that long-play phonograph records bear to audio reproduction, and at a cost not greatly different." At the moment it looks like a time scale within five years. This means of course that, with this particular technology imminently in the offing, if one is dealing with a widely scattered area it might make sense to delay a full-scale state network. Such methods of recording and playback obviously could affect the use of TV in classrooms. A teacher could select a video program from a library in the same manner as a phonograph record or a book.

The technology sub-committee also forecasts that within a decade or two a kind of service will be available at a cost very similar to what one now pays for telephone service, that will permit a teacher to consult a directory, dial up the particular ETV videotape or film she wants, and from a central communication centre, perhaps a thousand miles away, have a particular program transmitted to the screen in the classroom.

It is obviously not an easy matter to look into the future and decide what is the best method of coping with the technological explosion now occuring in education. Educational technology in the United States is now a multi-million dollar market, and there are manufacturers besieging school administrators at every convention. There are many systems of competing 'hardware', some very expensive, some relatively inexpensive. My closing plea to you is thus not for any massive system to be built very rapidly, but rather to start to experiment with the

facilities you have here in terms of the CBC and private broadcasters, to find out what sort of programs you need and how best to do them, to aim at the beginning for quality rather than quantity, and then gradually to spread their reach in terms of whatever distribution system seems most suitable to your needs and to your pocketbook.

Session Chairman, L. J. LAWLER:

If you consider the three main aspects for starting an ETV project, i.e. the engineering aspect, the training of personnel, and the production of programs, the order of the time-scale in my experience is something like 1:2:3 respectively. That is, the engineering can be conceived, planned, and installed in one year; it takes two years to train staff to run the organization; and it takes three years of experience before programs are reasonably acceptable. Thus, when you are developing a project it is sometimes better to start at the 'wrong end', in other words, to send people away to start learning how to produce before you have the 'hardware'. If you do begin with the 'hardware' first, you should be prepared to give your staff time to train before expecting a reasonable output of programming.

* * *

A City-wide Closed-circuit System: Glasgow

W. G. BEATON, Deputy Director of Education, Glasgow City Education Authority.

First I must tell you about the background of our ETV system. Glasgow is a city of a million people, sixty-two square miles in area. There are two universities, two teacher training colleges, and the Glasgow Education Committee under whose auspices our ETV service operates. We have about three hundred and fifty schools and colleges within the city, and about thirty residential colleges in various parts of Scotland to which children are sent for a number of reasons, some for their health, some for holidays, etc. We have a day school population of 180,000. The overall expenditure for education in Glasgow for a year is $31\frac{1}{2}$ million pounds.

Our ETV system has now been in operation for a year. Why did we begin? Well it was an act of faith really. But you know the definition of a Scotsman — a man who casts his bread upon the water, but making sure first that the tide is coming in.

We have a television centre in downtown Glasgow, an old local education authority building, convenient from every point of view. We spent 50 thousand pounds preparing it for operation. We have accommodation for three studios, with only one operational as yet. We have two lounges, one used for a library, the other for meetings. And we have ample provision for offices, staff-rooms, workshops, etc. The studio is a three-camera setup with a telecine chain, two videotape recorders and other ancillary materials.

We have a two-channel cable distribution system, and two more channels can be added if necessary. The studio is linked by a 100 mile network of underground cables and 18 repeater or booster stations to 315 schools and the education colleges. All are equipped with 27" receivers, and they are modified also to take BBC, and Independent Television programs.

Quality? Picture the situation in a Glasgow school. A flick of the switch brings in BBC, or Independent Television (both of which broadcast educational programs), as well as our ETV system. So we are in a competitive market and we really have to be as good as we possibly can. Have we achieved that quality? Not yet; but we are working on it, and we will achieve it. We are trying to be as good in our limited sphere as either BBC or Independent Television.

Staff. We have a permanent administrative and technical staff of ten, and we have almost forty teachers on a part-time basis.

Budget. This year we have a budget of £108,000, which covers rental of the studio, equipment, including the cable system, salaries, teachers' fees, scripting, graphics material, etc.

What are we aiming at? We have at the moment two clearly defined objectives: (1) to complement the basic day-to-day work of the schools through direct-teaching programs deliberately geared in content and pacing to school facilities; and (2) to provide a continuing in-service training of teachers in the rapidly changing curricula. This second aim offers an ETV service for teachers by teachers. Our job in the studio is to help them. These two objectives are not frozen: we are concerned to be flexible. We may modify objectives, always with the long-distance aim of spreading good teaching.

Statistics: the total number of transmissions in our first full year was 1,479, with the main emphasis on spoken French, modern mathematics,

and Cuisenaire arithmetic, in that order, with a number of other programs, in social sciences, in health education, religious education, etc.

Teacher reaction: Glasgow teachers are, I imagine, pretty much like Newfoundland teachers. They want to see the colour of the pig in the poke before they declare their reaction. At the outset they were neither pro nor anti; but I would say that they are now reasonably well pleased with our progress. My own personal feeling is that we have helped the teacher situation in Glasgow; and I think our teachers will become even better next year.

What should you do in Newfoundland? It's well worth having a go at it. An act of faith. You have lots of water around your island into which you can cast your bread, and if the tide happens to be coming in, well that's all to the better.

The business of communicating; and the 2500 mc, and satellite systems

REV. JOHN M. CULKIN, S.J., Director, Center for Communications, Fordham University, Bronx, New York.

It is very interesting to come to the land of McLuhan, where the prophets live, and to find out that the old stories about their lack of honour in their own neighbourhood hold up pretty well; because beneath the unintelligible writing, the forty per cent of the book that should have been burned, and all that sort of thing, lie probably the most incisive comments on contemporary psychology and life. If we could get someone to translate McLuhan into English we might be in very good shape in making the type of decision you must make here; because what McLuhan is doing is forcing us to focus on people and what they are like these days, and the fact that their psychological intake system has been altered by the fact that they live in what he calls this post-literate electronic culture era. And if we are in the business of communicating to kids we had better know on what frequencies they are being communicated to these days, otherwise we will be sending out beautiful messages which all of us love very much, but which happen not to be on the frequency to which our kids are tuned.

A seventeen-year-old told me that schools are where kids learn stuff, and that's really what we are all here about. Any decisions we make in the use of television, film, radio, or in the use of people, or in re-doing time schedules, or things like that, relate to one question asked all the time: not whether this will make a beautiful report for whoever we make reports for, not whether it will make all the people in the Department of Education happy, and not whether it will inconvenience teachers, but will it help kids learn stuff better. And the kids are very good critics of how well the schools produce these days, because the mass media have put them in touch with the world whose competence they respect very, very much. And if the schools look like a very lazy old-fashioned communicator in a world where the people who produce television programs and write commercials are very good communicators, then we are in a cultural schizophrenia.

In the United States kids look at television a thousand hours a year; so by the time they become 18 and get their high school diplomas, they have watched 15,000 hours of television, which is more hours than they spent in school. A lot of people say that's too bad; but the one thing we do know is that the total information environment created by these new media (and I include radio, television, magazines, and things like that) is greatly different for the student entering school today from what it was for his counterpart sixty years ago. Enormous changes have happened in a very short time. So we've got a new kid. The name of the game is "Communication". The more we know about the kid the more we can make the sort of decisions we are faced with here. We have new ways of communicating with that kid. He is a multi-media kid. He's not hooked on print as the only medium that can carry messages. He knows that the visual and the graphic arts, and the acoustical arts, etc., communicate extremely well. He is used to a high level of sophistication, and this communication he expects, and responds to if it is used in education. We can no longer prepare the new kid exclusively to be a processor of the print media. We have to make him a data processor for all the media. We have to make him his own TV critic, his own movie critic. We can't leave him at the mercy of advertising without giving him way of understanding how that game is played.

In all these things we have to realize that television is a small part of a much larger picture. But television is a big-shouldered medium. It forces us to ask more basic questions than any other device that has come into the schools, because it is so big and powerful. And it gives us the leverage to re-ask the fundamental questions concerning what we are really trying to do in the first place, and — a question we most frequently leave out when we talk about education — for whom. What do we really

want our student to do for himself, because learning is of course something he eventually does for himself, and we are just trying to create an environment around him which will remove obstacles and put aids at his disposal.

Television is a mass medium. Students expect good, well produced things to come out of it, and if you just come around with a lot of friendly people wandering in front of cameras, forget it. The only way you can do it is by having the resources available, both financial and personal, to do good quality programming. This is why instructional television in the United States is practically a disaster area — because there is so much local business going on. The average half-hour instructional program costs \$150 to produce. What do you get for \$150? Not much! And I think we have to find a way to take advantage of cooperative production. This does not necessarily mean uniformity and monolithic education, because everybody gets a chance. And local groups can be free to do the things they do better, not spreading themselves and their resources too thin.

Of course we are now talking about new roles for teachers. The teacher as the exclusive source of information is an idea that has been dead for longer than we realize. It should have died with Gutenberg; but in effect most university education around the world today, far from catching up with television, has not caught up with Gutenberg. Professors are still standing in front of classes dictating books in effect, and because they have the sanctions of certification on their side they get away with it. Suppose they handed out a book on the first day of class and helped the students learn instead of their learning about how to be stenographers.

Now just a little about hardware in two areas of my experience. The first concerns the use of microwave channels in the 2500 megacycle band. This is, in effect, private television. The frequencies are above the UHF and VHF capacities of the all-channel receiver and the signal has to be converted in order to receive it. If one were operating from here, for example, to take care of schools in the city of St. John's, we could transmit from our antenna four programs simultaneously (that is if we were to operate within the same licence system as in the United States). At each school there is a microwave reception 'dish', about three feet in diameter, similar to the ones on top of the television stations here. This dish receives the four signals which are then converted for reception into the unused channels on your television receiver.

So you could broadcast to four different classrooms with four different programs at the same time.

The main advantage of this over cable is that it is cheaper. If you can get cable much cheaper than it now is, use cable. Of course, as happens most frequently, these are not either-or questions. You probably have to stitch together a system that takes advantage of the flexibility and the usefulness of each particular medium doing its own job best.

In the United States the power in this kind of system is low power, ten watts of power, and the signal is diffused, not transmitted the way microwave normally is in its straight uni-directional line. With the low power, and with a fair antenna height and no great barriers in between, you can set up a television station to cover all schools within a radius of some fifteen miles. If you want to send the signal another fifteen miles you put up a repeater station which sends on the four channels. If you were to reach another densely populated area by means of the repeater station this might make sense; but to spend from \$30,000 to \$50,000 for a repeater station for the sake of a few schools might not be considered economical. If you were permitted to use higher power for systems in the 2500 mc band, however, this situation would be changed.

In New York City we will have in operation this fall two 2500 mc systems, serving 550 Catholic schools with 575,000 students. This may well be one of the biggest ETV systems in the country. There will be in all a total of about seventeen such systems on the air this fall, twelve of them public school systems, most of which are very small, involving twelve or fourteen schools, most of which are in great trouble. When you have a small school system you don't have a mass medium situation, and the tendency of new administrators with grants at their disposal is to do a flashy thing, to buy all the hardware in the world, and then set aside an adequate operating budget, nor the staff to do programs well. Sometimes the same people who will spend \$500,000 for the hardware will not put up \$100,000 for the programs to go on the hardware. So be warned!

I would very strongly suggest that whatever decisions you make that you be very sure that you protect your future by making strong representations to reserve some of this space in the megacycle spectrum for education, even if you do not have the slightest idea what you are going to do with it. Spectrum space is a natural resource in short supply,

and commercial users move much faster and have much brighter ideas about what to do with it than people in education. Make sure you've got the future open to you.

The second kind of system I would like to talk about is that of satellites. I want to give you some indication that they are in effect pretty simple and that you should not disqualify yourself from thinking about them. The Ford Foundation has been doing a lot of talk about this recently, and their main focus is talking about a way of robbing the rich to pay the poor, to let the commercial users use the satellites and give the revenue to education. It is now technically feasible to launch a satellite and to position it over the equator, to provide four channels of communication to all of North and South America. The old-fashioned satellite, the Early Bird and Telstar type, can only be picked up while they are whizzing by. The new type is put into orbit in a stationary relationship 22,000 miles over the equator; and with a little bit of power you can cover a lot of geography. You send a signal up to it, it bounces off your 'basketball' and diffuses widely on the ground. It can then be picked up by a ground station, one of your stations here in the city for instance, and then redistributed through this system.

Another possibility, if the bugs can be worked out, is that a dish on a school might be able to pick up the signal directly from the satellite. This would avoid many of the problems of ground distribution, such as the difficulty of getting signals into regions that are hard to reach by a ground system. There are technical problems here yet, and there are plenty of arguments, for and against, in terms of interference, but if there is one thing we can be sure of — and this is a great tribute to these people — the technicians can solve it. They have always been there ahead of the people who use their machinery. The question we have to ask while they are tooling up, no matter how long it takes them, is what are you going to do with it? What applications do you see in places like India, for example, which do not have television at all? We can bring television to them right away. The satellites are here. Let's use them.

Production and Reception of School programs: Telescuola

DR. MARIA GRAZIA PUGLISI.

Head of Telescuola, Rome, Italy.

> Note: Dr. Puglisi was unable to attend the conference because of illness; but the report she had planned to

deliver arrived by air mail in time for the Session Chairman, Mr. Lawler, to prepare and deliver a summary of portions of it. The following is an abstract of Dr. Puglisi's complete report.

There are basic differences between the production of standard television programs, such as entertainment, news, etc. The field of school television is perhaps one of the most complex and delicate categories of television programming. I shall mention some problems that emerge in the production of school television programs.

It is not sufficient to be arbitrary in the selection of subjects. One's choice must have a definite motivation, that is, it must meet certain specific requirements of the environment to which programs are directed. Thus it is necessary to consider the local school situation, teaching methods employed, the training levels of teachers, whether or not there is a shortage of schools and teachers, etc. Only a thorough knowledge of these basic elements will make success possible in the use of television for school programs.

It is evident that when TV organizations do not have experts highly qualified in pedagogy, the cooperation and advice of education experts is of fundamental value. Yet the very possibility of this form of cooperation and assistance is one of the factors that may make the production of school TV programs so difficult.

We are confronted, in this, by two equally important requirements: that the TV producer should maintain, even in a school program, a certain spectacular character, and, on the other hand, that the educator should emphasize pedagogical factors, which may affect the spectacular aspect of the program. The ideal solution is to find the proper balance between these two requirements, so that one may take advantage of the power of visualization and exemplification that TV so largely provides, with, consequently, a more effective application of the pedagogical factors. That this ideal balance can be achieved is widely proved by the results attained by various European broadcasting organizations which have had almost a decade of experience in school television.

The possibility of reconciling these two requirements depends largely on the individual who, through his presentation and explanation, will deliver the message. This is why one of the most important and difficult problems is the selection and training of the teachers, or speakers. We meet more frequently with the case of the teacher who is also the writer of the text; less frequently with the speaker who reads the text prepared for him. My opinion, born of long experience, is that the ideal instance

is that the writer and the speaker be one and the same. The non-writer-speaker may be quite efficient, however, and even indispensable, if there is an excellent text available by an author totally unsuited to appear on the TV screen.

In brief, the person who appears on TV, be it the writer or the non-writer-speaker, must not only be thoroughly trained, but he must have taken part in team-work with the TV producer and the education adviser. Thus, when he appears on the screen, he will express the material as a personal creation in which the pedagogic and spectacular elements — born of cooperation with other members of the team — have been thoroughly absorbed and have become his very own. This is the method we follow at Telescuola, where, I might add, all our programs are presented by teachers who are the authors of their texts.

The production of lessons is planned in two phases, both involving team-work. In the first stage, a restricted group concerned with pedagogy (the teacher, the education adviser, and the Director of the Courses) draw up the working plan, the series of topics to be dealt with, and the relevant pedagogical approach. Following this first stage, weekly meetings are held with the participation of the Director of the Courses, of teachers, television staff, designers, etc. During these meetings the forms and techniques of presentation are worked out.

Another most important problem for school television is that of the reception of the programs. The concern here is to ensure a lively participation of viewers. But, unlike standard television programs, school television has a special problem, in that programs are addressed to a well determined audience with whom a direct relationship must be established. In all types of educational programs, whether it be for children, for teachers, or for adults not involved in school training, the effectiveness of the programs can be only achieved if the audience to whom the programs are directed is properly organized. It is necessary to establish a most direct relationship at least with the local teachers and possibly with the pupils themselves. The organization of the reception of programs will of course have to be different for different types of audiences, whether they be pupils in the schools, or outside the school.

I will consider the case of reception by pupils outside school since this can be referred to my personal experience. When Telescuola was organized by RAI (Radiotelevision Italiana, or the Italian Broadcasting Organization) in 1958, the aim was to meet two precise local requirements: (1) to make it possible for children living in communities where

no secondary school exists to complete the compulsory requirement of going to school until the fourteenth year of age; and (2) to help solve the problem of illiteracy. In both cases we were addressing a most heterogeneous audience that was unprepared not only for distant teaching through television, but, in many cases, also, for the traditional classroom teaching at a level higher than that of the first primary grades. Such an audience would not likely be attracted by the kind of promotional information that could be distributed in favour of our initiative; and even if we could have attracted their interest in this way at the beginning, the difficulties involved in presenting education in this novel manner would have caused the initial interest to decrease.

Furthermore, the organization of this audience into groups guided by a person serving as a monitor would require means and initiatives far beyond the possibilities of Telescuola. The main difficulties were found in the case of secondary school courses because at the time when they were started (1958) little help could be expected from the Ministry of Education, since the Ministry did not then foresee the possibility of directly cooperating with RAI in this initiative. Telescuola, I should add, is totally dependent on RAI for administrative and production matters.

We were thoroughly convinced, however, that the outcome of Telescuola depended on the organization of potential pupils into viewing groups guided by local teachers. But the requirements are many and varied in setting up such groups outside school premises, in isolated villages with a low, and even poor living standard. For each group we needed a room where the pupils could be gathered, a properly working television set, chairs, tables, funds for guidebooks, pens, copy-books, possibly a blackboard, etc. Lastly, it was necessary to have a person who could help pupils to understand and to learn, possibly a teacher. When the first Telescuola lessons were about to start we knew that all these facilities would not likely be available, especially in small, very poor communities such as some existing in parts of Italy, as well as in the depressed areas of the most heavily populated parts, where the want for a kind of instruction accessible to everybody was even more pressing. Appeals for volunteers were sent to a variety of organizations and ministries, and thanks to generous and sometimes moving offers, more than 200 viewing centres were set up during the first three years of Telescuola.

The hundreds of thousands of pieces of homework sent in to Telescuola, and the results of examinations taken at the end of each year in the State schools, have shown what treasures of intelligence and learning

readiness could come to light. Without the help of the television medium all these human resources would have remained rough and formless.

Of course these most positive results are not only due to the organization of pupils into viewing groups, but also to the efforts to make up for the handicap of a distant relation: the text books, the correcting of homework, the prizes consisting of books or trips to Rome, the constant and lively correspondence exchanged with both the local teachers and the pupils from the viewing centres, have made a world of individuals, who would otherwise have remained isolated, into a true school population.

In the first three years of Telescuola the participation of the Ministry of Education consisted mostly of circular letters sent out to the State schools to ensure that they accept Telescuola pupils wishing to take the final examinations. In 1961, however, in view of the satisfactory results obtained, the Ministry agreed to participate more directly in order to achieve a more substantial integration of the secondary school curriculum. RAI was asked, accordingly, to adopt in the first grade of secondary school, and successively in the two other grades, the newly adopted 'reform' curriculum of the comprehensive secondary school. Thus Telescuola added a new aim: to provide a living example of the programs and teaching methods of the New Secondary School, thus offering to the interested teachers practical information on the secondary school reform to be started in the State schools in October, 1963. With this agreement between RAI and the Ministry of Education, the latter took charge of the viewing centres as well as the responsibility for appointing and paying the local teachers. Text books were replaced by a two-monthly guide that includes the texts of all televised lessons, and these guides have proved more effective than the text books. The viewing centres are equipped by the Ministry with a recorder, tools, books, and dictionaries, and they operate as separate sections of the State schools. They are accordingly supervised and periodically visited by principals of the nearest State school as well as by inspectors from the Ministry.

Lessons are broadcast every day, from 8:30 a.m. to 2:30 p.m. Each lesson is followed by a thirty minute interval to allow local teachers to go over the subject dealt with by the TV teachers. Local teachers receive each month a booklet containing instructions for the viewing of the different lessons.

The success of the secondary school TV courses led to our starting, in 1960, a series of lessons to teach adults how to write and read. Despite the many intelligent and efficient initiatives of the Ministry of Education there were about two million adult illiterates in Italy in 1960.

TV lessons for adult illiterates could not be the same as regular school teaching. They had to represent a powerful allurement, by exploiting the spectacular possibilities of the TV medium. We were again faced with the same urgent problem of organizing reception centres. Furthermore, we had a very difficult audience of adults, sometimes very old ones, who had to take time from their work and their families in order to attend the television lessons, and, further, they were not likely to own a television set. We thus decided, in agreement with the Ministry's Central Department for Popular Education, to organize the viewing in the same way as we had done for the secondary schools.

Teachers for each group of adults were selected from among the local primary school teachers, appointed by the respective school superintendents, and were paid out of funds from the Ministry. The Ministry also purchased more than 20,000 text books to be distributed to the more needy people.

In examinations taken at the end of a six-month course, with the examinations conducted by special commissions appointed by the Ministry, 80 per cent of these adult students were successful.

In addition to the two types of Telescuola programming I have already mentioned, we have undertaken other types in the past three years. To begin with, we have presented a pre-university science series, "On the Threshold of Science". This is designed, first, to try to eliminate the gap existing between high school and university levels of science training. The level of this series presupposes knowledge usually acquired in high school; and our pupils are given an idea of university physics, chemistry, biology, and mathematics. Thus they are helped in making their choice of the various specialties.

This science series also aims at bringing a broader audience up-todate on latest developments in science, and at a more rigorous standard than the usual popularization.

Finally, the series is intended to promote and extend the interest of viewers for those problems that are increasingly affecting human activities.

Experience of three years has shown that these three aims that may at first sight seem discordant can actually be achieved. The difficulties that many viewers would have because of the high level and rigorous approach are compensated for by the following other features: the living interest of each subject (always chosen from among the most advanced outposts of scientific research), the renown and skill of the university teachers presenting them, the effectiveness of the film excerpts (often especially shot and sometimes of high scientific value), as well as animation, and the constant concern to point out the practical utilization of every scientific progressive step. Most rewarding is the fact that these programs have been followed by an average of two million viewers, which is remarkable even if the broadcast time (7:50 p.m. to 8:10 p.m.) has a definite bearing on the result. The viewing audience is in fact larger than that achieved by some cultural programs with a more precise aim to be popular. The large correspondence also clearly indicates the heterogenous nature and the manifold interests of the audience. There is a great demand for further bibliographic information in addition to that given at the end of each program.

Another activity carried out by Telescuola in agreement with the Ministry of Education is that meant for bringing teachers up-to-date both in terms of subject content and teaching methods in line with the school reform program adopted in 1963. Among subjects in this program category are techniques of team-work, and the scientific knowledge of preadolescent psychology. These and other subjects have been competently dealt with by university lecturers of pedagogy, in the series entitled "The New Secondary School". This course was followed by a televised series of more than fifty debates, lasting 45 minutes each, in which highly qualified teachers discussed the school reform program.

Finally, I wish to mention a program that was born with Telescuola in 1958. It has remained to one side, however, since it is not a teaching program but rather a series of broadcasts devoted to vocational guidance, entitled "Looking Ahead". This series, broadcast weekly each year from October until June, has nevertheless played an important social role. Devoted to young people and their families, its purpose is to illustrate various careers, possibilities for jobs in various professions, courses of study required for qualifications, etc. In each transmission ten minutes are dedicated to correspondence, which arrives in great quantities and which is answered directly.

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CBC Schools Broadcasting

A. M. FOTHERINGHAM,

Education Liaison Officer, Youth and Schools Programming, Canadian Broadcasting Corporation.

In Canada school television has developed at three different levels: local, provincial, and national. This should be kept in mind in any attempt to determine what can be done in the future.

To understand developments at the national level I must refer to that other broadcasting medium, radio. As a result of the success of a series of programs broadcast by the CBC in 1942-43 with the cooperation of provincial departments of education, the Canada and Newfoundland Education Association (the forerunner of the Canadian Education Association) and the CBC recognized the need for liaison between the departments and the CBC. As a result, the National Advisory Council on School Broadcasting was formed. For the last 22 years this Council, consisting primarily of representatives from each Department of Education, has met to draw up schedules of, first, national school radio, and then national school television broadcasts. In addition, each Department of Education has had its own school radio broadcast branch which, with the cooperation of the CBC, has presented provincial radio broadcasts.

In the early days of school television a question that used to concern us was whether a topic was better suited to radio than to TV; and we should still keep this in mind as we draw up schedules for classroom use, particularly in provinces (such as Newfoundland) where there is an ongoing schedule of school radio programming.

The National Advisory Council discussed the use of television in meetings in the early '50's, and finally requested the cooperation of the CBC in conducting an experimental series of school telecasts in the fall of 1954. On the basis of an existing agreement for radio between educators and the CBC, school TV started at the national level. This beginning is to be compared with that in the United States, where ETV began and mushroomed at the local level.

Now if there are any disadvantages in the way in which school TV started in Canada I think it would be that its advent did not spring from the demand, the basic interests, and the enthusiasm at the grass-roots level of classroom teaching. It was imposed from the top by a group of people unknown to the classroom teachers. During the early series there

was certainly curiosity on the part of teachers, but there was no widespread feeling that television might have an important role to play in education.

On the other hand, there were definite advantages to educators from this manner of birth at the national level. In keeping with its definition of its role as the nation's broadcasting corporation, the CBC had undertaken to pay all costs of national school radio, and later television broadcasts. Thus at no cost to themselves the Departments of Education, through the National Advisory Council, had the opportunity to introduce TV to their classrooms, experiment with subject matter and formats, and gain reactions from teachers. The departments were thus able to wait until the most propitious moment for their entry into television. This was the situation particularly in the four western provinces which have been against provincial school television for a number of years and which, I think, have profited from waiting until they had learned from the national series. Over the past five or six years more and more provinces have presented their own schedules of programs, most taking advantage of a cost sharing arrangement with the CBC whereby the provincial departments pay all direct costs, such as fees to writers, actors, musicians, and any other charges for items for which the CBC would have had to pay out actual money. The CBC on its part has provided all its resources of producers, artists, designers and other specialists.

In discussing the national school broadcasts it is necessary to consider the word "enrichment", the word often used to describe the approach used at the national level as opposed to the more didactic or directteaching approach often used at the other two levels. Because of somewhat larger budgets than the provincial departments have allocated to date for their programs, the national programs tend to make greater use of constructed models, film footage, graphics, etc. We also employ professional script writers and professional talent to a much greater extent than do provincial programs — although this is partly due to the 'enrichment' nature of the programs. I do want to emphasize, however, that a key member of the production team is the teacher consultant. Sometimes in fact there is more than one teacher involved. For example, a year ago we set up a research group to do a series about government; and this group included a professor of political science, a subject specialist from a teacher- training college and two classroom teachers. Thus, although the school telecasts that we produce on behalf of the National

Advisory Council are of the highest professional quality that the facilities of the CBC can offer, these programs are developed in very close cooperation with teachers and other educators.

Despite the need for programs to cut across ten courses of study, and the use of the 'enrichment' approach, the Council felt that there was still some danger of overlapping with professional programs; and to keep this to a minimum the Council attempted to define the type of programming that could be best done at the national level. Here, then, is an outline of their guiding principles:

- (1) to foster a sound spirit of Canadianism, based on an understanding and knowledge of the country's history and of its varying geographic, social and economic conditions, with the resulting diverse points of view;
- (2) to deal with matters of national importance, developing in students the feeling of being responsible members of the Canadian nation and assisting them to interpret their roles in it;
- (3) to draw attention to Canada's work on the international scene, and its unique and important role as a member of the community of nations;
- (4) to present programs beyond the resources of finance and personnel available at local, regional, and provincial levels; and
- (5) to present programs based on elements common to the curricula across the country, thus helping to avoid unnecessary duplication of programs and expense.

For examples of the kind of program that is best done at the national level I shall refer to several that will begin in October (1966). There will be a series, "Challenges to Canadians," six programs dealing with topics such as country urbanization, opportunities across Canada, conservation of resources, and automation. There will be a two hour production of "Julius Caesar," using Canadian talent; four programs dealing with industry; dramatizations of Canadian books; functions of relationships of the three levels of government; seven programs about life in the various geographic regions of Canada; and a series of French language programs filmed in Quebec. All of these series fit one or other of the five purposes I have mentioned, and thus should supplement and strengthen the schedule of telecasts prepared for classroom use by other authorities.

This is a time of change for school broadcasting at the national level. I have referred to the National Advisory Council on School Broadcasting, which first met in 1944. With the increasing growth of ETV it was felt that an Advisory Council was no longer the best kind of organization. The complexities of the medium, its educational potential, its cost, the need for a strong body to guide its developments and promote its growth at the national level, all called for an independent organization. Thus over the past several years an ad hoc committee has been working on a constitution for a new organization. This was approved by the Ministers of Education in the early spring (1966), and the incorporation of the Canadian Commission on School Broadcasting will take place in the near future. Since the subject of a national group, a clearing house, has been raised several times at this conference it is important to keep in mind that there is, at least for school television, a Canadian commission which has been set up by the Departments of Education of the ten provinces. There is no reason why the constitution could not be enlarged as time goes on, to widen the scope of the activities of this national group to take in ETV in all its ramifications.

The new independent organization consists of three groups. There is a Council for School Broadcasting in the English Language, consisting of one representative from each Department of Education plus teacher representatives and others. A second group, a Council for School Broadcasting in the French Language has a number of members designated by the Minister of Education of Quebec, four members designated by the standing committee of the Ministers of Education to represent provinces other than Quebec, plus other members. Finally, over the two Councils, is the Commission itself, consisting of the chairman of each of the Councils, and, from each Council, a representative of the teaching profession, one from the Departments of Education, one from the CBC, and, finally, the secretary of the standing committee of the Ministers.

It is very hard to predict what changes will take place in programming at the national level as a result of this re-organization. The important thing, I think, is that the initiative and responsibility are now completely in the hands of the educators. As an independent organization, the Commission and its Councils can, if they wish, provide leadership for the whole country not only in programming but also in matters of research and utilization. It can also become a national forum for the Departments of Education, resulting in the strengthening of school television not only at the national level, but also at the provincial

level. Finally, the new organization should tend to emphasize what in fact has aways been the situation, that Canadian school telecasts, that is programming at the national level, are not CBC programs. This is a mistake that many educators have been labouring under — that because these are produced by the CBC they are therefore CBC programs. They are not. We can only enter the school broadcasting field at the request of the National Advisory Council, or the new Commission on School Broadcasting, because, as you know, of the constitutional situation whereby education is within the jurisdiction of the provinces. And the nature of these programs, and their role, are matters of decision to be made by the Departments of Education and other educational groups as represented on the Canadian Commission on School Broadcasting.

I might also add that whether these programs even continue is a decision for the Commission itself to make. Certainly the programs will not likely ever be of the nature directly to help students pass provincial examinations. The aim is rather to stimulate interest, to motivate viewers, to make it easier for the classroom teacher to teach the material that might provide the answers for examinations.

The extent of the use of these programs is a further matter that must concern the Commission. Certainly all of us connected with national school broadcasting are concerned that this province, for example, is not using this television programming at all, that there are no sets in the schools. This is extremely disappointing when we keep in mind the effort and the amount of money that goes into these broadcasts. There are one or two other provinces where national school telecasts are not used excessively, but, fortunately, there are provinces where these programs are well used. It is a question perhaps of the needs of the teacher as he sees them. Perhaps in Newfoundland and these other provinces the teacher has more basic needs to be filled before he is able to give education the wider definition that enables him to use these national telecasts. Nonetheless, it is important, I believe, that the Departments of Education know why they are engaged in broadcasting, whether at the national or provincial level.

Discussion Session:

(1) W. R. WILSON (Technical Adviser, BBG): Perhaps I could add some information about a possible distribution system for ETV in Canada. Considering a local area first, one might begin with a VHF or

UHF channel in order to reach the home and the schools. As extra channels are needed in that area the 2500 megacycle system could be used. There is of course the need to tie together various systems within a province, for network operations for at least part of the day (these various local systems might operate as separate, isolated systems, with local instruction, at other times of the day). A possible system for tying these together is a space or satellite system, using relatively high power, sufficient power so that in areas which are sparsely settled the schools themselves could use a ten foot antenna and a receiver to pick up the provincial programs on a direct basis. In the more thickly settled areas, however, the programming could be broadcast on the 2500 mc equipment. The model of which I am speaking, although there are other possibilities, is a six-channel satellite which could allow a channel for British Columbia, one for Alberta and Saskatchewan, one for Manitoba, one for Ontario, one for French language broadcasting in Quebec (English language broadcasting in Quebec could be by means of ground distribution), and one channel for the Atlantic provinces. One might have more channels, and lower power, although this makes the school reception more difficult. The matter of the best compromise with number of channels and power is certainly something that needs closer examination. Twelve-channel satellites are quite practical, for example, although the dish needed at the school is larger and more expensive than that for the six-channel satellite.

The cost of this space-relay system with the six channels, not including any receivers, but including a transmitter to go to the satellite for distribution within each province—the total cost amortized over the life we might expect for the satellite, i.e. five years, and the ground station equipment amortized over ten years, would look like \$3.5 million per year, which is a quarter of 1% of the education costs in Canada per year as of 1960. There is little doubt that this is very substantially cheaper than any ground network. This kind of thing needs to be integrated, however, with the established public and commercial television station relay requirements in order to make the best use of spare channels on the satellite, etc. Technically, I think this kind of system could probably be practical in, say, the 1969-71 period.

Reception from the satellite in this case would be institutional. It would not be within a normal broadcast band, that is, but would be in a microwave band that would need a special receiver. In a quantity of 500 these receivers would cost about \$5,000 per receiver; in a quantity of 1,000, the cost would be about \$2500 per receiver.

(2) L. J. LAWLER (Head of Production, Centre for Educational Television Overseas, London, England):

The Centre for Educational Television Overseas is an organization that has been in existence for four years, with the aim of helping developing countries to use television resources for educational purposes. We are a collection of professional people whose object is to translate the demands or requests from developing countries into reality.

The second aspect of CETO's work is in the training of teachers to use ETV, and we have now trained in London over 100 teachers from 33 countries; and in doing this we use relatively simple broadcast-quality TV equipment. We do not attempt to teach them education, but rather to help them translate their particular educational demands into TV terms. As a result of training these teachers there is now much more planning and training going on within the countries involved.

The third aspect of our work is the manufacture of, for want of a better expression, "do-it-yourself" television kits. These are kits, packed in boxes, containing all that is necessary to plan direct-teaching ETV programs. They contain scripts, instructions to the producer and to cameramen, studio plans, instructions to lighting people, graphics to be shown, and a roll of film consisting of perhaps from six to eight inserts. We expect the developing countries to alter this material. Scripts are written in English, but they are ultimately broadcast in many languages. In altering the material the local producer may substitute graphics or photographs of local interest for the samples of British material in the kits. We restrict programs to didactic subjects which are universal, such as mathematics, physics, chemistry, biology, etc.

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CHAPTER III

THE TEACHING TEAM

Session Chairman, BRUCE RAYMOND,
Assistant Program Director, Television Network (English),
Canadian Broadcasting Corporation.

Yesterday morning we heard effective communication described in terms of a proper marriage between intelligent transmission and intelligent reception. Yesterday afternoon we were given an insight into several systems of ETV which would appear on the surface to have effected a comfortable marriage in the name of education between artistry and technology. But this is not easy. In my day a teacher stood between me and my blackboard. Your speakers will consider today's teacher, not only the teacher in the classroom, but the teacher in the studio, and all their colleagues, the cameramen, the sound-men, the script writer, and the school administrator, all essential members of the teaching team.

Admiral Rickover of the United States spoke out strongly against the team concept. He favoured the isolated captain who ruled by personal authority through personality. I tend to favour his viewpoint; but the fact remains that teaching by television requires the coordinated efforts of a group of experts whose individual professional career-aims have very little in common. What is good TV is not necessarily good teaching; and what is good teaching does not necessarily make good pictures. There is need, then, for a successful marriage between the best instincts of a good educator and the best instincts of a good televiser.

The Teaching Team: A Question of Balance

RODERICK MACLEAN,

Director of Television Service,

University of Glasgow, Glasgow, Scotland.

What we are speaking about this morning is not so much the teamwork of the cameramen and the floor manager and so on, but the team-

work of the television teaching team. This is a much more subtle relationship, a relationship whose implications are rather apt to frighten the teacher. The fear is that the professional television man will gradually, if not indeed suddenly, take over from the professional teacher. The question is, should he take over? And the answer is that this is a question of balance; and the way the balance swings depends on what use one intends to make of television.

In the United Kingdom ETV is still very new, and we are still asking elementary questions concerning the possible use of television. And here in Newfoundland, apart from your extension work which until now has been hidden under a bushel, you are at the beginning of ETV too, so let's not be ashamed of asking the quite elementary question of what television is in our context. What kind of use do we intend to make of it?

A speaker yesterday said that television was neither good nor bad, it was neutral. I would express the same idea by saying that it means as many different things as the printed word can mean, and it can be used in as many different ways and directions as the printed word can be used. There is one stock definition, however, that should be examined, that is, as so many people say, that television is a mass medium. I would like to say just two things about this definition.

First, it gives rise to the very loose and mistaken notion that anything by virtue of being televised acquires a wider appeal. This is patent nonsense; but you would be surprised at how many people believe it. If what goes into the camera has the elements of mass appeal then the chances are that some of that mass appeal will come out at the receiver end. If what goes into the camera is as dull and unappealing and ineffective as much of our teaching is, then the chances are that by the time it reaches the receiver those faults will have multiplied, not diminished. Television of itself is not going to revolutionize the style and the content and the techniques of our teaching.

The second point about the definition is that educators in fact very seldom really accept the implications of television as a mass medium. They say they want it as a mass medium; but when they are faced with what that means they shy away. About nine months ago a report was published on audio-visual aids in higher scientific education (the Brynmor Jones Report), and the first sentence of a chapter devoted to television ran as follows: "Television is a powerful and influential medium of mass communication, and in this chapter we consider the part it can play in the field of higher scientific education." And from

there on, the chapter dealt with many types of television, not one of which could be described as a "mass medium". The educator envies television as a mass medium, but he is seldom prepared to make the concessions and the compromises that are involved to use it as a mass medium.

To return to the question of balance, if you decide to use TV as a mass medium, then the balance must swing very markedly towards the television professional, toward the television producer rather than the educator. The educator must then be prepared to make the compromises demanded by a mass medium, the superficialities, the slight inaccuracies and the half-truths that get across better than the whole truths. Television has become a mass medium not because of its mechancis, but because over something like a quarter of a century it has grown up as the cross-breed offspring of show-business and journalism. There is nothing bad in that; but they are two techniques, two fields, which know how to 'get across', and if you want television as a medium for 'getting across', then you accept the techniques and the compromises that go with the two parents of that cross-breed offspring.

If you do not want television as a mass medium, however, and very few educators do, what do you use it for? Only in a rather surprisingly limited number of cases do educators want to use television to its full potential. They recognize that there are certain immediacies of time, and, more particularly, of place, that television makes possible in a way that the classroom teacher could never command. But these cases are surprisingly few. If we really wanted many of the gifts that television bestows on us in this sense, we would have been far more persistent in our use of film, which, we must admit, has been capable of providing many of the things that we now claim only television can provide. Just as in the case of film, however, far fewer educators than we think are really making use of the particular facilities that television offers. It has been done on a small scale and within many departments in many universities, but I do not think it has been done on anything like a really wide scale and in big school systems. But if it is your decision to use television as television, then the balance between educator, on the one hand, and television professional on the other, becomes a very fine and evenly struck balance, where the teacher knows what he wants to 'get across', but where the television technician knows best 'how to get it across'.

Although we do not always realize it, most of us really turn to television not as a mass medium, but simply as a distribution system. There is nothing to be ashamed of in this, and here in Newfoundland probably the most vital contribution that television can make right now is simply as a distribution system. It gets material to places which otherwise would not get it.

In the last two or three years we have had several experiments in the U.K. in the direct teaching of adults by means of television, which have been hailed as successful and important. In one experiment, with the University of Nottingham and a commercial company, where there was a closely controlled course in economics, in which viewers numbered comfortably inside four figures, television was not used to distribute on a mass basis. It was considered perfectly worthwhile to distribute an adult course on economics to very small pockets of professional people, most of whom wanted to brush up on their economics. We had a similar experiment about a year ago in the field of statistics where, again, an effective audience well within the four figure bracket followed a course of a dozen lectures; and nobody felt this was a scandal. It was using television as a distribution system to get at small professional pockets that one could never have gathered any other way.

I do not think that Willie Beaton, whom you heard yesterday, will be offended if I suggest that the real reason for the beginning of his Glasgow school ETV system was that there were relatively few teachers for relatively many schools and pupils, and not that they were going to teach better by television than had been possible before. The Glasgow system, whatever it may produce in the way of good television instruction, was started and is justified as a distribution system that brings highly skilled teachers to many schools instead of a few highly privileged schools. This is the kind of answer that I think Newfoundland is looking for at the moment. Don't be dazzled by the majesty and magic of television as a mass medium — all very well in its place, so have that too — but do recognize that the pressing need may be for a distribution system.

As you will have realized, I have not really been speaking about the television team; but I have been using the title as an umbrella under which to say some things that I wanted to say and which I felt were worth saying. And, secondly, I have been speaking as though the producer and the teacher were separate bodies. If you are working with a television network they do tend to be separate bodies; but as ETV

spreads you do get a highbred animal who is a bit of both. The balance is no longer between the teacher and the television expert; it becomes a balance within the man himself, and depending on what he considers television to be doing at any one time he will change the balance. But he must have a policy; he must know what his television is supposed to be doing at any one time.

The strictly neutral mechanics of television, because they are simply neutral mechanics, can be used in an infinite variety of ways in a tremendous variety of directions and at many levels. The level and direction of your ETV here in Newfoundland is a question of policy. If the policy is unsettled, then the balance between the educator and the television professional will settle itself, although never easily.

The Studio Teacher

LINA GRAHAM,

Television Teacher of French, Nova Scotia Department of Education, Halifax, Nova Scotia.

> Note: Mrs. Graham's report was preceded by a fiveminute videotape recording, a 'miniature' sample of one of her televised lessons.

This kind of programming was born four years ago in Nova Scotia out of the need to improve the teaching and learning of French in the province. The traditional method of teaching a language by translation and grammar had long run its course, and had created the demand for the teaching of French as a living language. Television instruction had started in Nova Scotia the previous year with the teaching of mathematics and science; and it seemed that the new medium of instruction could solve our problems. It can and it does bring the spoken word into the classroom, thus offering to thousands of school children the opportunity to develop the ability to understand the language as it is spoken, and the ability to speak it as it should be spoken. Since it is becoming more and more a recognized fact that television lends itself especially well to the teaching of languages I will not dwell upon this topic, but rather would talk about the specific functions of the studio teacher and the television classroom teacher.

The first step is to determine the way in which television will be used in the schools. What will its role be in the total course of study? Will it serve along with conventional classes, enriching already adequate instruction? Will it offer total teaching without assistance from classroom teachers; or will its role be that of cooperative teaching?

The method in use in Nova Scotia is cooperative teaching, where the TV teacher and the classroom teacher are partners in the teaching of a course of studies laid down by the provincial Department of Education. This partnership consists of the studio teacher, classroom teachers and curriculum specialists, jointly planning the course in advance in order to prepare teacher-guides. The studio teacher presents, explains and demonstrates the major points of the lesson, raises questions, and stimulates student interest. The classroom teacher prepares students for the telecast part of the lesson, answers questions, clarifies points, leads discussions, makes assignments, gives individual help and supervises testing.

This partnership may be a very real force for excellence in education. It does not come about of itself, however. It must be cultivated. In Nova Scotia, for example, it requires thought and organization to find ways of bringing studio teachers and classroom teachers together. In a number of situations the studio teacher visits the viewing schools regularly. It has proved helpful, also, for the classroom teacher to visit the studio (e.g. during our Education Week). During the school year periodic meetings are planned, to bring studio teachers and classroom teachers together, such as in yearly seminars for our different television courses.

Another useful means of communication is the check-card that the classroom teacher fills in periodically and submits to the School Television office. Among questions on the check-card are: were reception conditions good; was the lesson guide satisfactory; did the lesson fit well into the curriculum; were the pupils interested, etc. These check-cards keep the classrooms in close contact with the studio teacher and bring the lesson guides under regular review. For most teachers it is a new experience to work with another teacher; but the skilful classroom teacher will see in it a challenge and an opportunity.

When television first began to be used for direct classroom instruction in Nova Scotia many questions were raised about its role in education. It was argued, for example, that television was potentially a one-way medium of communication, and that its use for instruction would deprive the student of valuable contacts with the teacher. As one critic put it, an electronic tube cannot understand a child. It was also argued that learning would be reduced to a passive experience in which the student merely soaked up what was presented. Finally it was of course argued that television will never replace the teacher.

As Nova Scotian teachers have become familiar with television as a medium of instruction, learning day by day how to make use of it, it has become evident that, far from being a threat to the status and prestige of the classroom teacher, television is actually a powerful tool for enhancing the art and prestige of teaching, and for bringing to the student a richer learning experience.

Television provides more time for extensive preparation of lessons by both the studio teacher and the classroom teacher. The typical studio teacher handles far fewer lessons than a classroom teacher. This means she has preparation time far in excess of that available to the regular classroom teacher whose preparation time for any lesson is limited by his total teaching load; thus the studio teacher is able to present lessons that are well organized, rich in content, stimulating and interesting. Ordinarily the studio teacher has help in preparing her course of lessons. A team approach is used, where she has the assistance of the viewing teachers, the producers and the administrator. In addition she has the help of an artist in the creation and production of visuals.

It takes a large number of highly trained people to produce school telecasts. I believe our school television system in Nova Scotia is unique in that the television teacher is provided by the Department of Education while the CBC supplies the television crew. That this arrangement is most effective is made evident by the very fact that we are entering our fifth year of production with this combined and harmonious effort.

One of the most important strengths of ITV is that it makes available resources that have never been available before to the teacher in the average classroom. As a result of these carefully prepared demonstrations, school supervisors and principals have commented that they have seen many teachers adopt better teaching practices learned from their colleagues teaching over television. In this way television has the potential of stimulating and enriching professional growth of an entire instructional staff.

During the televised lesson, the classroom teacher is the key person who creates the climate favourable to learning in the classroom. Some classroom teachers stand in front of the class, next to the TV set, reinforcing the television course through their own authority, and calling on children as they are asked to respond to the television teacher. Others view the programs sitting side-by-side with their students. Others are actively maintaining order and attending to individual needs. There

is no fast rule for the best procedure except perhaps one. The classroom teacher should not give his class over to the TV teacher by withdrawing entirely into the background, marking papers or otherwise abandoning his immediate personal contact with the children whose education is his primary responsibility. Such behaviour would only reinforce the one-way characteristics of television and would lose sight of the fact that the classroom teacher could give the individual child the personal feeling of recognition and of being understood, so essential in all good teaching.

With the advent of televised instruction, clarification of the teacher's role in the team-work involved is a prerequisite. A rewriting of the teacher's job description would be necessary and enlightening to many. The well produced program makes increasing demands upon the teacher's abilities. Faced with educational materials prepared by others, classroom teachers are confronted with challenging tasks. Television could become a blanket of standardized instruction if the classroom teacher abandoned his post. This can happen if the initial antagonism and the reservation of many teachers turns into permanent hostility or negation. Such an attitude would be based then on a failure to recognize that ETV rather than replacing the teacher makes increasing demands upon him as an educator.

After four successful years of school telecasts, Nova Scotian educators are convinced that the TV instructor and the classroom teacher provide an unbeatable academic team. The history of school television in Nova Scotia began in December, 1961, when Dr. Harold Nason, Nova Scotia's Director of Elementary and Secondary Education, proposed the idea of direct television instruction to the Board of Broadcast Governors. In April, 1962, Dr. Nason chaired a meeting of representatives of the Nova Scotia Teachers' Union, the Nova Scotia Association of Urban and Municipal School Boards, the Elementary and Secondary and Adult Divisions of the Department of Education, and also the CBC. This meeting gave birth to the Nova Scotia Advisory Council on School Television, which is, with two representatives from each of the groups mentioned, the general planning and guiding organization responsible for school programs in Nova Scotia. To look after the many details of this rapidly expanding service, a Provincial Supervisor of Television Instruction was appointed, with headquarters at the Department of Education.

It is evident that Nova Scotia school telecasts are being employed regularly by a substantial number of schools in New Brunswick and

Prince Edward Island; and an interprovincial council on school television has been convened to discuss the possible coordination of curricula, to provide further opportunities to use Nova Scotia school telecasts.

During 1966-67 nine courses, in mathematics, science, and French, will be offered to nearly 100,000 students in Nova Scotia schools, from Grades 4 to 11. These programs are shown from Monday to Friday, from 10:30 to 11:30 a.m.

As Nova Scotia school television enters its fifth year, Canadian educators as well as educators abroad are watching it grow in quantity and quality. This growth is the result of successful team-work of the classroom teacher and the studio teacher. As teachers become more involved in the use of ITV they seem to realize that although some difference in procedures occur, the basic principles and objectives of education remain essentially the same. For both the classroom teacher and the studio teacher the use of ITV presents a splendid opportunity for cross-fertilization of ideas, and for becoming familiar with different points of view and different approaches. Both instructors have common interests, the subject, the students, teaching; and both have the common desire to inculcate in the students a knowledge and enthusiasm for the subject; but the teacher using ITV in his classroom and wanting to use it effectively must be willing to look at a new method, to attempt a new technique, to use a new tool, a tool which I know will help him in doing his work.

The Studio Teacher

ELWY YOST.

Supervisor of Secondary School Television, Metropolitan Educational Television Association, Toronto, Ontario.

"I may vomit!" — Those words were uttered in "The Man Who Came to Dinner." I often consider this as the first kind of electronic joke. There is certainly tactility and immediacy about it. Vomiting is a dreadfully rude and crude thing to talk about; but I would suggest that perhaps sometimes our studio teachers have to be a little rude, perhaps a little crude. And there are other factors. A famous French movie pioneer said that the cardinal law of the cinema was "Thou shalt deceive." Here, I think, he indicated a strong propensity of motion pictures towards deception. He was telling us that there is really no such thing as a moving picture, and when you look at a strip of film the pictures are all still. The motion we experience is entirely illusory. In television, too, the

picture on the screen is not real, it's entirely an illusion. There are 200 or 300 scanned lines that give us the illusion of motion. Now I mention this because I think that the studio teacher has to be aware of the possibilities of illusion. It's magic; and studio teachers have to be careful of the witch doctors who control the magic — magic not only for production, but, as well, for the on-camera witch doctors, the people who write the scripts and do the performing.

A good example of the propensity of the medium towards propaganda was illustrated by our good colleague, Ted Conant yesterday. You will remember that explosive shot that Ted included in his film, of the child yawning. What an edited little strip of footage! And what comment on the kind of ETV about which Ted was editorializing! He was giving us his impression, and indeed when you are using this medium at all you are editorializing. You are using it to conform to certain opinions and impressions you have towards certain points of view.

And another thought when considering ETV and the studio teacher is that "truth is plural." There is no such thing as *the* studio teacher. There are studio teachers. And the kind of studio teacher one may be will depend on a number of circumstances, such as the particular geographical area we are dealing with, the facilities we have, the philosophy of the people who are calling the shots, and so on.

There are perhaps four major categories of possible studio teachers. One kind may serve what I will call the small control area. A good example would be in a closed-circuit system for a single school, or a small area. Next we have the studio teacher serving a regional area, such as, for example, in telecasting for the needs of St. John's. Third, we have a provincial area, which takes us into a larger area, bringing with it particular problems at that level. And finally we have the national area, such as that described yesterday by Mr. Fotheringham.

What kinds of ETV do we have going into these areas? At the risk of pigeon-holing, I see two kinds. First, there is the purely instructional kind, the main purpose of which is to present part or all of a given curriculum. A good example of this kind of programming is that planned for Mexico, where the tone is going to be very pragmatic, very much instructional. Teachers will even be trained to use television receivers, and receivers are going to be placed all over the country, wherever they can be set up, in church basements, town halls, and so on, in places where there are no schools.

The second main kind is that which has been termed "reinforcement"; and this type of programming is not to take over a portion of a curriculum but to reinforce, or to enrich the imagination of students, to carry the implications and applications of a curriculum beyond the four walls of the room. I would think that this type of ETV would apply to areas where there is a high degree of sophistication among teachers, where teachers are already doing a splendid job. I think this more qualified teacher would perhaps even be better served by this kind of ETV.

Let's consider selection and training. In the small control area, dealing, say, with a closed-circuit system in a single school, the teacher on the screen is known to his colleagues and to his students, so that the onscreen image is truly an extension of the fellow they see in class and whom they can touch. I would suggest — and I may come under criticism here — that almost any teacher will do for this kind of small system, unless, that is, you have a teacher who has dreadfully odd vocal characteristics, or some unspeakable facial characteristics, or some bizarre mannerism. But I don't think the teacher will be adequate by our simply saying, "You will do. Go on and do the lesson." There has to be training. There is no question about this, because television technique is not classroom technique.

How do we differentiate between the two types of technique? The live classroom is much like this room here. We are governed by time — I am, I'm watching my watch right now. I am also governed by space. All of us here are influenced by the conditions of this room. In television the situation is different. We are dealing with magic. We can have three monitors on at the same time, all with the same face. We can jump back, or forward, in time and space. We can do almost anything because it is a magic medium. But we must be careful how we do it. In a live classroom considerable body motion is very acceptable. Teachers can pace the room, do all sorts of things. On television very little of this is allowed. In the classroom considerable facial mobility is sometimes a very good thing because your teacher has to project to the back of the room. On television it must be much more subtle, else it will explode that little screen. The medium is too intimate to allow this kind of thing. Projection of voice is needed in a classroom, and there can be a looser talk pattern, some amble and ramble, and a lot of improvisation. On television we need a much tighter talk pattern, no amble or ramble, and much more direct control.

Television is not only intimate, it is very selective. The camera goes only where it is planned to go, and there must be a great discipline over the use of facilities. I would suggest that in a small control area system, in, say, a school, a steering committee might be established to concern itself with facilities, curriculum, and, in association with department heads, the selection of teachers to handle programming.

Studio teachers should be picked to suit their respective markets, however, and you have to know the market before you select the teacher. The more one goes beyond the small control area, the more sophisticated the teacher should be. There is no question that such a teacher should have more appeal at the provincial or national levels. The basis of selection should of course place academic excellence first, video-flair second. And training in writing and performing is always necessary.

Any ETV training system should be planned with the following factors in mind, all of which may be treated in a course in television theory and practice. Training for the planning and writing of scripts is essential. The studio teacher must become a script writer, and should learn about visual resources and processes. In learning the techniques of script writing the teacher must be aware that ETV is not prepared like a classroom lesson. It is more directed, more selective. One is not speaking to a group as I am speaking here, but, on television, you are speaking to just one person. And the importance of team attitude between the studio teacher and the classroom teacher should be stressed.

Note very carefully that ETV deals with the mind, although it does use emotional tactics at times. Although it is not out to entertain, it should at times do that too. It must never be dull. But we don't want slickness, 'show biz', so much as we want a solid authority who knows his medium's versatility and limitations, and one who can communicate very clearly, directly, and expressively.

The Classroom Teacher: the Role of the Administrator

MARJORIE VASEFF,

Executive Secretary, Chicago Area School Television, Inc., Chicago, Illinois, U.S.A.

If the classroom teacher is not well prepared, is not interested, and does not communicate her enthusiasm to her class, whatever is presented on television is going to be a waste of time, of everybody's time.

The classroom teacher is so important in this. Teaching and learning can go on with only a teacher and a student. A principal or administrator is not necessary in a one-room school. There is one excuse for administration, however, and that is to make the teaching job easier, whether it be school administration or the kind of administration I do. I am talking as an administrator of in-school television and also as a former in-school administrator. The in-school administrator is important too. The climate of a school is set by the principal; there is no doubt about that. I know of schools where just walking in you can feel the tension.

The one thing that is sometimes forgotten is that a teacher has a very strong 'eagle' need. If she is not the boss in her classroom she is not very comfortable. The successful and creative teacher doesn't really let it be known that she is the boss, but everyone knows it and feels it, and she doesn't have to make a point of it. But anything that threatens that 'eagle' position of a teacher is going to make her less effective.

There is such a thing as a teaching personality, and part of my function is to hold workshops and to help teachers learn how to use the medium effectively. I think the first thing I have to do — and this would be true also for a principal — is to help the teachers to identify with me. I have to make sure they understand that I have been in a classroom and that I don't think everything is going to be the easiest thing in the world, and that I know they are going to encounter some problems. In developing this rapport I let them know that I have made a lot of mistakes and I am sure that I am going to continue to make them, and that the important thing is to learn something from them. It is of course important not to be phoney about this. If you are anything other than sincere everyone is going to know it, and you will probably suffer more than they.

The classroom teacher is the one who knows her youngsters. She is the only one who knows exactly what has to be done with her class. She has some children who need a great deal of background information, and others who need very little. But teachers are often encouraged to use television as a sort of mass approach, and I think that as we become more sophisticated in using it, teachers should be encouraged to use it in one way with one part of her class and another way with another, and perhaps not at all with some others. It is no terrible thing to turn some children away from the set. It sounds strange to some people to suggest that while a television program is going on some

children will be watching while others are doing something else. This latter group will be doing something else anyway, and the thing is that the classroom teacher can be sure that what they are doing is more profitable for them. In the modern mathematics basic course, for example — which we have offered for the last four years to Grades 4, 5, and 6 — some of the material may be beyond some children, so you would lose them anyway. How much better it would be to take a portion of the class and decide that it needs, say, the fifth grade level, while another may need the fourth grade level.

Instructional television should not be used indiscriminately. You have to do some planning; and anyone who thinks that television is going to be a quick answer is sadly mistaken. It is not going to answer all of the educational problems of Newfoundland. In fact, it is going to create some. But anything that is worthwhile is going to create problems, and the problems should be worth meeting head-on. Teachers who are having difficulty with direct teaching are going to have some difficulty with television. If they are told that it is going to be a very simple thing and that they are going to be able to use it without any problems at all, you are going to have a great number of frustrated teachers. If they are led to expect some problems, without your scaring them half to death, you will have people who are not surprised and not discouraged.

One of the things I have often seen happen in a regular teaching situation is the practice (or apprentice) teacher being placed with an excellent teacher who makes everything look simple; and when the practice teacher is faced with her own class she can't understand why all these problems occur. Quite often, too, the practice teacher is placed with a less than perfect teacher, and comes away with a better sense of how to handle a classroom and how to present material. For one thing she knows some of the things she had better not do, and she is also reassured that even experienced people are going to make mistakes from time to time.

Good television utilization is like any other good teaching or good use of an instructional medium. But what happens to the lesson? What happens to the children, which is really the end result, is going to depend on the kind of use the teacher makes of it, and her enthusiasm is the key to the whole thing. If you want to see a very sad situation, it is seeing a very well prepared studio lesson, with excellent reception — which, by the way, is very important — going into a classroom in which the teacher is not interested. Now why is she not interested? What are

the things that make a teacher reject television? Often it is because it has been forced upon her. It should be kept in mind that the television teacher simply has a different kind of responsibility, a different kind of lesson presentation; and if a classroom teacher is told, instead, that the use of television in her class is a way of upgrading her lessons, with the implication that the upgrading is needed, she is bound to reject television. There is so much importance in the area of human relations in this whole field.

The main thing is that, when you go into instructional television, there are two most important people whom you cannot forget. One is the classrooom teacher, and the other is the student, and everything that is presented must be worthwhile to both of them. It must do something for them. It must do something for the classroom teacher that is difficult for her to do, perhaps not because of talent but because of resources. If it is because of talent don't make an issue of it. Each of you who is responsible for introducing television to a teacher might do a bit of role-playing and put yourself in this position: you are in your job, you feel you do a fairly good job of it, you know your inadequacies — we all do whether we admit them to ourselves or not — but someone comes along and says, "We are going to put someone at your side for twenty minutes a day and they are going to give you an example of how to do it right," and think of your emotional reaction to this. And then think of what could have been said to allow that person to come in and be of some help to you. I know that whenever we introduced something new in our school, for instance the Cuisenaire arithmetic, I found it was much easier to get the teachers to cooperate if I said, "May I come in to your class and try these with your kids because I'd like to see what kind of mistakes I am going to make,"and I made them, which was good for me, too.

We cannot forget the human element. We can read books on how to use television, and each of you is sufficiently sophisticated to be able to get this kind of information out and get it across; but it is how you do it that matters, remembering, and honestly so, that the classroom teacher is one who is going to be using this and the one who is the most important.

* * *

The Classroom Teacher

MRS. JOHN JAEGER,

Teacher, Cleveland Heights, Ohio, and a National Consultant for the National Association of Educational Broadcasters.

I am the one who can turn that set on or off. On this kind of back rests the effectiveness of millions of dollars of your equipment and your brains and your 'know-how'. Yes, I am a teacher, probably the lowest one on this totem pole here. I come not as an expert, but purely as an individual who made the first mistakes first. Many of you, as has been said, represent the 'hardware', and somewhere I am clutching the 'software'.

Among the questions you may ask are, how do I plan a lesson for telecast; how much work does it involve; is it an intrusion on my time; what is the reaction of my students; how do I tie it into the curriculum of things I must cover; what are the educational advantages for a teacher and her students; does it make any difference to examination results; why did I use television originally; and how did I get started?

In answer to the last question first, it was just luck, in that my husband bought an extra portable set several years ago. I happened to see the UHF dial on it and immediately confiscated it and took it to my classroom. Why? Well, I had been teaching, as I now am, special-ability children at the fourth grade level. There are no adequate text books of any sort, and I make frantic searches for current material from periodicals, books, things I have watered down and rewritten. It has been a daily job, so you would wonder why I tackled another task. I will tell you. I have scrounged a tape-recorder, I have a filmstrip machine, an overhead projector, I have the principal's record player, I use parents, I use every live resource I can get. And so now onto the scene came ETV, and it really gave me a lift. Why? It provided me with already prepared programs, subjects were expertly presented, it brought in rare and uncommon resources which I would not have had the time nor the opportunity to gather, and it provided me with supplementary material.

Well, the first six months was a fiasco. I did not know anything about using ETV. I had no help from my superior. All she said was go right ahead. The Superintendent of Schools was a close personal friend, and he said "fine, just dip right in." And they ignored me.

After I had made some horrible mistakes for six months, I thought it over and realized that the children were just not getting anything out

of it — and the word was "involvement". I had not involved myself with the children in the plans. They were not involved in anything. So we scrapped everything and spread out the manuals for telecourses we chose, and presented it this way: that this is something we are going to do together. I wanted them to have a part in the planning. The children went over the manuals thoroughly, they studied the description of each telecast lesson, they summarized six or seven subject manuals, and then we broke up into groups. We even called the parents in on it. What did they think was timely? How much did they feel I could use outside of the standard curriculum? And it was very exciting.

It really began to bear fruit right away. One group was assigned by the week to pick up and be responsible for the extra material that was suggested, all the publications, and so forth. The library was helpful. We got extra film strips, everything we could lay our hands on. I found myself buried in a deluge of daily material until I learned some shortcuts.

There was total preparation for the child beforehand. If we could preview the telelesson I suggested that the children do it. (I always had the 'preview' anyway). Written material was also available before we watched the scheduled program, and this material helped with vocabulary development and an introduction to difficult concepts. If the program were on science I would try to relate it directly to the science we were doing then.

Now we come to the great moment when I pushed the button and the room was ready for viewing. Of course the room has to be well ventilated. And before we even got into a listening position we made a big thing out of how you really listen, the purpose of what we are listening for, and what makes a good listener. That took several sessions, but it paid off.

Note-taking. The children have note books in which they keep accurate records, brief though they be, of each scheduled television lesson. They take down chief phrases; since obviously at fourth grade level there cannot be any comprehensive note-taking. These bound note books travel to and from school. During the listening I stood in front of a blackboard by which the television set was positioned, and the children would see me related both to the screen and the blackboard. On the blackboard, above the set, I would write key words and phrases, during the telelesson, and the children tended to imitate me; thus they received some semblance of a decent summary. At the end of the session the

children would receive another prepared sheet which would contain thought-questions. I don't emphasize disgorgement of facts, but I am concerned that the children would be left with ideas for independent study.

How do we evaluate these programs, the measure of success of the children? There isn't any letter grade. It is rather that a sensitive and perceptive teacher will see growth and change in a child. You will see a spark, hopefully, of increased curiosity and imagination, seeing them delve into subjects that they probably would never have been exposed to if it had not been for these programs. When they started to pursue extra things and special interests and hobbies, that to me signified growth and change in the child.

A further point was that before we even looked at a program, we took the children, along with parents, to a television station. We watched the production of several lessons, and we met two studio teachers whom we were to watch throughout the year. So later, as we watched, the children knew that the preparation that was going into their extra lessons was done thoughtfully and by real live people. It was not just a projection on the screen. And eventually we invited the station manager and the two teachers to the classroom, and they were very interested to watch a demonstration lesson — not ever having had one in Cleveland Heights. I was in fact the only teacher using it there for two years.

What advantages do I find as a teacher in using televised lessons? I do not have any research on this, largely because I have not had time for that. But research is beginning, and it tends to show that you can teach faster with television and that the children do learn and remember more. The only way I can justify this is in terms of our speaking rate. Generally, for my classes, the teacher's speaking rate is about 140 words per minute. One does not continue at that rate, but pauses from time to time to let the material be absorbed. I have found that, with the aid of television, I can double my speaking rate to about 280 words per minute. I found that if any of the television teachers on the programs spoke more slowly, a little bit of wool gathering goes on at the reception end, including myself. Unless the rapid-fire discourse keeps up the minds of the children wander.

Another advantage is that television can magnify, and show an entire classroom what is under the microscope and what is in outer space. It does force attention. The children are glued, a captive audience and a very attentive one. And it does provide a welcome relief and change of pace in the usual classroom routine.

A further advantage of instructional television exists in its being a low definition medium, which means, in effect, that it arouses interest but it does not provide all the answers. It guides and it leads, and between the studio teacher and myself we just get the children to the edge of the diving board and then hope they take the jump. This is to be contrasted with television as a high definition medium as used in entertainment programs, which really wraps up one thing; it's all perfect and all generally furnished, leading to passive watching and listening. We don't have to stretch our minds in any way. We just absorb. So for ITV to be really meaningful in a classroom it must have real built-in gaps of knowledge, and in the right places.

Among disadvantages, I found that many of the available programs do not fit the curriculum, and it takes a lot of adjustment to make them fit. Then, ideally, every classroom should have a television set, to save time in getting to and from a viewing room in the school. Some teachers have complained that the programs talk down to the children. In my opinion, if a program talks down obviously it should be on another grade level, or it should not be shown, or should be snapped off in the middle of it. Don't sit through a program just because it has been turned on.

In conclusion, I would say to my Newfoundland teacher friends that my groping in the last few years might very well be comparable to what you might go through. You will probably experience the same feelings of success or frustration. I know you will feel that it is worthwhile after a while. Just be patient with it. It is not a threat to you because you are in your own room with your own children, and no one knows them better than you. It is such a help.

Personnel Training

JAMES WYKES,

Director of Schools TV Service, Inner London Educational Authority, London, England.

I am speaking to you as one who has been given the job of developing a service of educational television for all levels of education up to university, with a special emphasis on the subject of teacher training. First I should clarify two points about the closed-circuit system of the Inner London Educational Authority. Why "Inner" London? Inner London is merely what used to be called London, while London has expanded to take in far more area and inhabitants. In Inner London we shall be administering to the educational needs of a population of about six to eight million people.

Secondly, why are we using closed-circuit, cable, instead of doing it over the air? The answer is that it is a purely political decision that no broadcast channels are being allotted at this time in the United Kingdom.

An interesting point about our setup, that might affect you here as well, is that we are in a situation where there are two national broadcast channels (the BBC and ITV, or Independent Television) putting out educational programs that are well established in schools, and they are coming to be more and more respected by the teachers. About 15,000 schools in the whole country are now equipped with television sets, that is about half the schools in the country. So we have to develop our system beside a very well established, well respected, going-concern. And we are going to provide the schools and colleges in London with television receiving sets that will have every facility for receiving national programs. There is no suggestion that we do not want the schools to receive these national programs. Not at all. Why, then, are we developing this new system if there is good national schools programming? There are various reasons, but the chief one is because we think there is a great difference between educational programs made by broadcast organizations as part of their general broadcasting, and programs made by educational organizations as an integral part of their teaching system.

Now if we are going to live comfortably side by side with BBC and ITV programs there is need for very high standards of production. We don't want to compete with them, and we would like to regard what we are doing as complementary to what they are doing. It is difficult to draw any firm distinction without over-simplification, but we have to bear in mind that they have more money to make programs than we shall have, but they will probably be making fewer programs, and they certainly have less opportunities for transmitting programs. They have one channel each; we shall have at least six, possibly eight. But we are going to try to do something rather different. Whereas national broadcasters will tend towards 'enrichment' programming, we shall be trying

to meet a local need and will be doing more of what is termed "direct teaching", teaching to a syllabus, something closer to classroom teaching.

One of our aims, of course, is to relieve the teaching shortage, especially in some subjects such as mathematics and science. So we are going to try to make programs which are as good as they can be of their own kind. We have heard implied, if not definitely said, earlier in this conference that good programs are necessarily rather expensive. I cannot accept this. Programs must be good of their kind. Expensive programs can be bad and they can be very good; and the same thing can be said of cheap ones. It is of course fatal if you try the expensive program and then don't spend enough money on it. But if you are going to do something, you must have a clear idea of what you are going to do with the money you can afford; and there is no reason why it should not be as good as any program made anywhere.

What we have to try to do is to use the medium — and this is easy to say — to the fullest extent for getting points over; and we have to aim at a very high standard of production technique, and this is not difficult. We have to get things like timing and pace just right. This needs a lot of experience but it can be done. We have to be careful of our camera work. It must be impeccable. We must not pan the camera all over the place so that viewers get sore eyes looking at the picture. We must not have the intrusive microphone peeking coyly in at the top of the picture. We must be professionals. And how do we become a professional? We train. We learn the job. And we must train producers as well as studio teachers.

When one is setting up an organization of this kind there is a need for various sorts of people. Some you can readily get — such as administrators. There are others, though, who need specialist knowledge, such as graphics men, and men who can handle film, and technicians. This is very important and I would emphasize it. Technicians are absolutely central to your whole scheme, and they are hard enough to get in the United Kingdom. This is something you will have to think about. It may be that you will have to train some here.

We shall need at the start some ready-made, well-tried, experienced producers. I am looking for producers, however, who are not dyed-in-the-wool, who are flexible. What I want is somebody who will tell the teacher what television can do and what it cannot do, and who will then tell the teacher to go away and think about this as it applies to his subject. Teachers should then work it out for themselves. There may be all

sorts of ways we have never thought about for teaching by television, and somebody may come up with these ideas. If they do, let them experiment, give them plenty of opportunity to make experimental programs and then to see their efforts and their mistakes when they play the programs back on a videotape machine.

In the training scheme we are setting up in London for teachers in order to train them in television techniques, we are not going to ask them to train as technicians (our permanent staff will do this work) but we will ask them to handle all teaching aspects, such as, of course, teaching on camera, but, also, script writing and production.

This is a big undertaking, because in schools in London we have about 20,000 teachers, not to mention the great number of teachers in education establishments where a lot of part-time teaching is done. Fortunately, we have time on our side since we will not be presenting any programs until 1968. It will take the Post Office all that time to instal cables.

We are going to have a structure of training courses in three stages. The first stage is open to any teacher (when there are vacancies in the course quota) to go on an elementary course that will last the equivalent of two full days. In this short course the teacher will be introduced to television equipment, to learn the 'basic grammar' of the equipment. It may be that some of these people will never go any further, but, even so, this will not have been a waste of time since they will have learned how to be better users of television.

The next stage will be a course that will last a week, possibly ten days. During this time teachers will be in groups, arranged so that we will have primary teachers together, or a group of mathematicians, or science teachers, and so on. Each group will become involved in making an educational program under careful supervision. They will also get instruction, and will have opportunities to see other studios, have outside lectures, and so on.

By the end of this second stage we should be beginning to find some people who have a real flair for this; and for such people there will be a third stage that will last three months. These selected teachers will come to the studio centre for a three months' intensive course in television techniques. Among these people will be those who are going to be our producers and studio teachers. Those people who have been successful in the third stage will, if they wish, be seconded to our centre for two years on an operational basis.

This is quite a complicated system of courses. Some will be disappointed. Some will have got as far as stage two but will not go on into stage three. We don't want them to feel frustrated and we hope to give them opportunities to do what you might call workshop practice, to be able to book some studio time somewhere in London, perhaps near where they work, just as you might book a squash court or something like that. They might organize little groups and work away at their ideas; and if they get something good I hope they will send it along to us. It may be that we shall need them later.

There is one thing that we hope to achieve in this. It is a hunch I have had for a long time (since working in Associated Television, an independent company that has made a lot of educational programs), and that is to bring the professional producer and the educator together. We always found it took a long time before they could start speaking the same language; and the result was that a series tended to get better as they got to know each other and to understand what one another was really trying to do. I feel that if we can get people who know the same subject educationally and are trained in television techniques, they surely should be speaking the same language from the word "go".

We also hope to get hold of some really bright teachers. A really bright teacher thinks twice before he gives up his teaching career to become a broadcaster, because, in the educational sense, he's probably burning his boats; but he would think very differently about a proposition where he could go on a course that commits him to nothing, not even if he accepts a two year secondment, which may indeed improve his qualifications. I am almost certain that this kind of training will improve him as a teacher because he will be working with other people and talking about his subject in a way in which, I think, teachers very seldom talk with each other.

There is another point about this training scheme that should make teachers feel involved in what they are doing. Although many of the teachers will not get into stage three and find their way into the studio centre where the programs will be made, many of them will be able, through these courses, to meet and talk to the producers who are making the programs. This kind of thing cannot be done nearly as well with a national system.

There must of course be formal consultation, committees, representative committees, and so on, and these will decide what subjects should be taught by television, and at what levels. But one hopes that

such committees will give the people concerned with the making of the program a very wide brief, not too detailed. At this stage in program development a small team is formed. One cannot say in advance how big it should be, perhaps two, three, four or five members. Much depends on how much research has to be done. But we hope that when they have got their brief, this team will start thinking very hard and, before long, will have some experimental program plans to bring back to the teachers for discussion, thus giving the classroom teachers an opportunity for discussion and consultation.

This may sound rather a grandiose scheme. We won't get perfect results. We know that. We shall need criticism, and we will get criticism; and we will deserve it. I hope it will make us want to do better. I would say that one of the worst things that can happen in education is when teachers reach a stage when they feel they have nothing left to learn.

Discussion Session

- (1) I. GILMAN (Chief Assistant to the Controller of Educational Broadcasting, BBC): May I make a point in connection with the kind of situation in which a teacher is shown with her class, and this is presented to viewing children in their own classrooms. We have had some experience of this in the BBC, having tried it in various subject areas. I used to produce a current affairs program in which we had a quiz program at the end of the term, with twenty or thirty children in the studio on camera. We also had a panel discussion in the program. We found that these programs were not popular. We also tried this in a series of pilot programs which never went on the air. In this case we had a natural science teacher who felt that he would respond much better to children in front of him in the studio. We did various pilot tapes of this, and the outcome in each case was that, in our judgment, children receiving the program in the classroom would feel cheated because the person presenting the program was not in fact talking to them. He was talking to other people who stood between them and the camera; and the essence of television is this intimacy of communication between the television teacher and the child in the classroom.
- (2) PROF. G. FIZZARD (Faculty of Education, Memorial University of Newfoundland): While I have great faith in engineers and technicians to provide us with the 'hardware', and while I foresee no difficulty with financing an ETV system, I am concerned about the human factor to

serve this system. This will determine whether or not we have the biggest white elephant you can imagine. There are many questions concerning the training of classroom teachers in the use of this medium. Even the preparation of the television teacher is not as significant as this problem since we are dealing with a relatively small number of teachers as television teachers. How competent does the classroom teacher have to be in order to make effective use of this medium? How much training in the teaching of French, for example, does a teacher need in order to make use of the Nova Scotia French programs?

- (a) Lina Graham: I am of the opinion that the classroom teacher does not have to have such an extended knowledge of the language. I firmly believe that the teacher can learn along with the pupils. But, of course, we know that the teacher is a responsible person and should prepare herself before entering her classroom. I must stress that we have teacher-guides for our teachers, and to accompany each lesson we have audiotapes; and I believe that if this material is well utilized by the classroom teacher it would be very helpful even if she does not know the language. In other words, she would have to keep a few steps ahead of her pupils.
- (b) ELWY YOST: I would like to suggest that if the Province intends to go ahead with an ETV program, they give very careful consideration to the development of what I would call utilization teams to go around to schools to talk to the teachers, to give them tips, and do demonstrations, letting the teachers become part of the whole operation.
- (c) S. G. McCurdy: I think Prof. Fizzard's question is crucial. I suspect that the number of teachers who would require to be upgraded in quality and training would be very high; and I think that Mrs. Graham's answer is not an inclusive one in a general sense, although it might well apply to the teaching of French. It seems to me that there must be a minimum requirement to make effective use of this medium. I can understand that it might not be necessary to be fluent in French if a classroom teacher has basic pedagogic skills. She may be able to get by, using the aids, and so on, but my feeling is that unless she has a basic minimum training she will not know how to use the aids.
- (d) L. J. LAWLER: Among interesting examples of training of classroom teachers are, first, in Israel, where they established a very

fine closed-circuit system about two years ago, going on the assumption that you must give the classroom teacher six months training before she is capable of properly utilizing ETV in the classroom; secondly, with perhaps a more reasonable length of training, in the Philippines classroom teachers are given six weeks of training related to a one-year telecourse; and the third example is in Honolulu where a new system is being organized in which there is an intermediate stage between the training of the classroom teacher and the training of the television teacher, and this stage is for the training of coordinators for small districts. I think if ETV comes to Newfoundland it may be necessary to have a coordinator for each small community, so that there can be an intermediate stage of liaison between the classroom and the studio.

- (e) Marjorie Vaseff: I think that using the medium itself to train teachers is important. Team visits, bringing teachers in, all of these things should be done, but I think we must not lose sight of the fact that we can use the medium; and we are being untrue, in a sense, if we don't use it. If we are saying that television can't teach teachers, then we certainly don't think that it can teach children; and so I think it is important to use it. The trick is to get the teacher-training programs on the air at a time when the teachers can see them and are not too tired, and are interested. If they have the experience of learning by television, they are going to have a better idea of how to use the medium with the children.
- (f) James Wykes: Surely it is a very simple matter to put on some programs that will teach teachers how to use television in the classroom. This does not seem to be a very difficult problem, especially when one remembers that in areas of southern Italy there are actually people being taught by television without any classroom teacher at all; and surely a classroom teacher must be more qualified than these people. The second point, concerning the classroom teacher who has to teach French but doesn't feel very confident about it and wants to keep a lesson or two ahead: this is a bigger problem, but one which I would have thought could be solved if you correlate programming time so that you have a course for the teachers on teaching French, to be followed some time later by the actual French course.
- (3) T. R. Conant: The excerpt from the film I showed reflects the point that the film was designed as a sort of 'white paper' on education reflecting Marshall McLuhan's ideas about education. He very frankly

feels that the role of the classroom teacher is going to change. Professor Oliver, a colleague of mine at Harvard, made the point recently in a paper in which he asked, "are teachers obsolescent?"; and Oliver's view is that, given Computer Assisted Instruction, and some of the other things that the education business is dreaming up, in the next decade or two in the United States many teachers will become more sort of child tenders and machine tenders than maintaining the present role of dispensing didactic information. This is a view I am not wholly in sympathy with, nor is Oliver, incidentally. Oliver says, and I agree, that he doesn't particularly like this and will probably send his children to private schools as a sort of luxury; but this is probably the way the U.S. education picture is going to go. My film reflects this sort of view, and it's a perfectly valid point of view. I think it certainly does have relevance to this group at this conference, because there is no question about it, as soon as technology enters into your classroom certain tradeoffs will occur, no matter how you obscure them with language.

- (a) S. G. McCurdy: I would react to that. I haven't a doubt in the world that there are dangers in store for the role of the teacher with the advent of educational television; but I don't for a moment expect that they will become machine tenders. I suspect that we will concentrate more and more on the things that live human beings in a classroom can do that the machine cannot.
- (b) T. R. Conant: Of course the question is much larger than television. Television is just a crack in the door. McLuhan is really referring to this whole complex of Computer Assisted Instruction, the other forms of technology where, in fact, you can have a dialogue with a machine, and where a child can talk to a machine and the machine talks back, where a child can type and have a dialogue by means of the electric typewriter and a machine. Television is just a beginning in terms of instructional technology, good or bad, and I think that Professor Oliver and McLuhan would agree that, of course, the human element, particularly in guidance and counselling and many of these areas will still have to be done by human beings, although Oliver is a bit more extreme about this than McLuhan. But there is no question that the roles are going to change, and have changed, in many school systems in the United States.

- (4) Don Jamieson: I am concerned about plant, the production centre. If we or any other area develop an ETV system, is it the general view of ETV people that they need their own facilities totally, or is there a way in which existing facilities can be utilized?
 - (a) ARTHUR KNOWLES: It seems to me that there is no reason why in Newfoundland one should not start with an attempt at using existing facilities if they are not already being used to the full, either CBC or private station facilities; but it seems to me, based on the evidence in Toronto and Edmonton, that you very quickly reach the saturation point. META in Toronto, and the groups in Edmonton, Ottawa, and elsewhere are living on borrowed time; and in Ontario we have reached the stage where we simply must have a separate province-wide, municipal-wide service; and I predict that within two years if you started here using the facilities of the private and public sectors of broadcasting you would reach the same position.
- (5) Don Jamieson: One of our biggest problems in Newfoundland schools is reading, the basic techniques of reading; and this is not only a problem with students but a problem for teachers, that is, how to teach reading. I wonder how effective ETV can be in this field.
 - (a) L. J. Lawler: I don't know of any cases where television sets are being made available for children of five to seven years of age to do the basic teaching of reading; and I agree with Miss Vaseff that this is a very, very difficult field. It is much better to go for teacher training, as they did in Nigeria, where by using an expert teacher of reading to train the local teachers who, although enthusiastic, were not well trained themselves, they did get over this problem to a very large extent.

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CHAPTER IV.

ETV FOR ADULTS

Session Chairman

CLIVE J. HEWITT,
Deputy Director of Television,
Leeds University, Leeds, England.

Adult Education in Newfoundland and Labrador

DONALD SNOWDEN,
Director of Extension Service,
Memorial University of Newfoundland.

My task is to talk about some of the factors that are going to govern what happens in adult education in this province, and, particularly, adult education in television.

I can perhaps best start by telling you what we do not have. We do not have a well developed program of educational television for adults. We have never given any credit courses on television, although we have given a few non-credit courses. In these instances, however, we have not established the vital mutual contact that must exist, I believe, between the television lecturer and his audience. We have been involved in television programming that has been limited primarily to vocational improvements; and this has been done most noticeably through a series on CJON called "Decks Awash", a sort of pot-pourri of material on new fishing techniques, on the attitudes of fishermen toward their industry, the way they make their living, and so on.

With such an under-developed program in ETV for adults, we are in need of advice. Before we could reasonably expect you to give us sound advice, however, I believe there are some things that you should know about us — about our attitudes, the way we live, and where we live. It is perhaps important to appreciate that we are talking about a half a

million people living in about 1200 communities in the least densely populated part of the Atlantic Provinces. Only about one-tenth of these communities have any form of local government. Half of the population is urban, half rural. Of our rural population about 37% have had six years or less of schooling. Less than 4% have been through university.

In the face of these sobering facts there is little doubt that rural Newfoundlanders are to be confronted with social and economic changes at a pace that has probably never been seen in Canada before. Recent developments in communications in the province are already producing very evident effects on people who have been long isolated. Our whole concept of mobility and accessibility may have changed very drastically within the past twelve months following the completion of our first major road across this province. Within the next decade it is expected that a government program of resettlement and population concentration will have depopulated hundreds of our rural communities. Their inhabitants are likely to move to approximately twenty growth centres in the province, and for these people the adjustments not only in the way they will make their living, but in living itself appear to be enormous.

Perhaps it should be asked whether they can be prepared for these changes. We think so. We think it must be done; and we believe that television may play an important part in doing this. It is my conviction that in this province at this time educational television must be thought of not only in terms of grade work and non-credit courses, but in terms of creating environmental understanding, in terms of creating and maintaining an informed population especially in the rural parts of the province.

We have heard of the impressive results obtained by the Fisheries College in Newfoundland, and of their extension work outside St. John's. There is a large number of fishermen, however, who, for quite personal reasons associated with their own attitudes towards themselves as fishermen, will not go inside classrooms. Television may be the way to bring training to them in their own homes.

One of our problems in talking about how we can educate adults, and how we can use television to educate adults, is that in some ways we are all wrong organizationally. We have a highly centralized government in Newfoundland. We do not have the same sort of field force that seems to exist in many other parts of Canada, a field force primarily for the purpose of providing information to rural people. The

Extension Service of the University has only two extension workers outside St. John's; and, in fact, the University itself is highly centralized. Its rich academic resources are exclusively in St. John's. While this may not cause difficulties for younger students, the fact that the faculty is on the campus can and does undoubtedly create some limitations. In Labrador City, for example, with a population of 10,000 people, a relatively high percentage are professional, with an even higher percentage of skilled people. They live in relative comfort in an immediate sense of isolation. In an education survey we did this year in Labrador City we learned that they are extremely interested in continuing education, as is the company that employs them, since this is one way in which it can cut down on the large number of transients among the population. Relatively few of the people in Labrador City, however, are qualified to provide the sort of course work that we would want to provide.

Yesterday Dr. McCurdy pointed out the way in which teachers feel both socially and professionally isolated, and he suggested that perhaps television might provide an important link between the teacher outside the larger centres and his professional counterparts elsewhere. The same suggestion might be made for our medical staffs in cottage hospitals. Our doctors in these small hospitals are isolated from continuing professional contact, and it seems to me that programs for doctors by doctors might well serve an extremely useful purpose.

Although agriculture in Newfoundland is a very small factor in our economy (about 2% of our people are dependent on it for their livelihood) our farmers are in a rather desperate position. We have no agricultural specialists in the Extension Service. Yet during the past few months a high proportion of the farmers in Newfoundland have been asking us to give them help in farm organization and farm management. We don't have the qualified people to do it effectively at the local level. Perhaps we are going to have to use television to do it.

All this points to one thing: that we have limited resources of knowledge and we must use them as efficiently as possible.

This applies equally in the arts as it does in any other human activity. In the arts our facilities are extremely limited and outstanding people are few in number. Yet, these talents and abilities and treasures must be made available to as many people as possible, not just those who can get into the art gallery in St. John's, or who can hear the orchestra in Corner Brook. No adult in the province should be denied access to the best in music, art and drama simply because he lives in an outport.

All of these considerations point, of course, to using television for some facets of education. If we are to have effective adult education in rural Newfoundland we are going to have to use television, and we are going to want to use it. We must produce our programs carefully, and schedule them even more carefully, since in order to have an effective result the program must be used jointly with an extension worker. I think, too, that we must use mobile convertible vans or trucks that may serve continuing adult education in various ways.

There can be no hesitation in this province in mounting a massive continuing adult education program. We have already seen the last generation of mankind that can live without continuing education all its life. We are convinced that television will be a vigorous force in shaping our attitudes, broadening our experiences, and widening our capabilities.

Credit Course Programming: TV College

DR. JAMES J. ZIGERELL, Assistant Dean of Television Instruction, TV College, Chicago, Illinois.

This year's graduation list for the Chicago City Junior College contains the names of fourteen graduates who never spent even an hour in any of the classrooms of the eight campuses spread throughout the city. Another two hundred or so of the twelve hundred graduates did a part of their course without making an appearance in a formal class. At one time or another these students were enrolled in TV College, which is an extension of the Chicago City Junior College system. This is a tuition-free, municipal two-year college.

Since 1956 TV College has been presenting full-credit college courses. By "full-credit" I mean that these are courses listed in our College catalogue which students take who are admitted to regular 'on-campus' programs. We have been presenting these courses from the studios of WTTW, Channel 11, the community ETV station. This VHF station can bring TV College into any home with a television set. Now although the feat is no longer unusual, even city-editors are still stunned to hear of forty-year old housewives who finished two years of college by studying part-time on television for four, five, or possibly six years. Some of these women are now fully qualified teachers in Chicago area schools; and I know of one woman who started with us in TV College who has completed a master's degree in English literature at Northwestern University.

TV College presents approximately eight or nine courses during each of the fall and the winter terms, with four of the courses each term presented 'live', and the remainder being videotaped courses that had been produced in previous terms. In addition, six videotaped courses are presented during the summer term. Thus TV College students are afforded the opportunity of year-round study. Each of the thirty lessons in each course is telecast twice during each term, first by day and then during evening hours for the convenience of students who are employed by day. Since our beginning in 1956 we have offered more than sixty different courses for credit in all academic areas; and, in addition, we have presented a number of non-credit courses. Approximately 50,000 individuals have now taken courses for credit, many of them taking more than one course per term. About an equal number have been enrolled as non-credit viewers: we regard people as non-credit viewers if they request study materials, study guides, etc., but do not report for examinations or complete the assigned projects. Although TV College students who study at home are, as a rule, part-time students, if we consider total registrations we have a good sized liberal arts college. If we total all registrations for this term, for example, we would have the equivalent academic load of about 1,000 full-time students.

During our first three years TV College, like so many other educational projects, shared the bounty of the Ford Foundation. We began with a grant of approximately a half million dollars to support the program, in part, over a three year period. The objective was quite simple: to test the feasibility of offering full-credit junior college courses on open-circuit television in a metropolitan area.

After lengthy preliminary discussions, the Ford consultants were persuaded that the Chicago Junior College could best preserve its institutional integrity and serve its goal of general education by relying primarily on its own faculty to present the TV courses, rather than by recruiting 'stars' from neighbouring universities. We have occasionally used 'outsiders' — we are not opposed to it — but we feel that we are able to preserve the integrity of our own program by using our own teachers for the most part.

When we started we began with teams of teachers, each team being made up of three apprehensive but experienced classroom teachers. They were turned over to the studio personnel early in June, and they were prepared to go on the air in September. These first teams prepared courses in English Composition, biology, a general course in social science, and a course in U.S. national government.

It was soon apparent that a junior college program could be offered on television without sacrifice of instructional quality or student performance. In 1960, as a matter of fact, the General Superintendent of Chicago Schools commissioned a group of people from the outside to examine the record. This panel felt that we had been successful.

The early years were often frantic. Ways of administering a program that enrolled as many students as a fair-sized liberal arts college had to be worked out — almost every night, it seemed at the time. Teachers had to be recruited, courses selected and scheduled in the studio. Cost had to be kept within the limits of a tight budget. Teachers had to learn to adapt their instructional materials and methods to a strange and demanding medium. No longer could they hear the beautiful chuckles occasioned by professorial wit, nor see the puzzled frowns of uncomprehending students. Thus began our never-ending search for ways to supply the television instructor with feed-back. Instructors worried about making viewers more active participants. Teachers were soon introduced to problems of instructional television that defy completely satisfactory solution. Yet some teachers viewed these limitations as blessings in disguise. In some instances, television has become a catalyst of instructional change and the stimulus of renewed interest in the psychology of learning. Other questions, such as how faculty hostility can be overcome, were particularly vexing during the early years, although they have become less so in recent years.

The most rewarding part of the TV College story concerns the performance of the adult home-viewer (TV College courses are also presented in classrooms to regular students in campuses of the Chicago City Junior College, and I shall speak of this group shortly). The typical credit-course home-viewer is from 28 to 30 years of age (this median age has been lowering over the past ten years). She or he is married. Three of every four students are female, usually a parent. Scores on intelligence and entrance tests rank these students in the upper half of college-bound students in the United States. They are students who would be admitted to, say, one of the better state universities. A recent Ph.D. dissertation based on a study of the TV College homeviewing audience concludes that as a group they display traits which characterize the lower-middle classes, namely the desire to get ahead (this is an important factor to consider when one plans the scheduling of courses); a desire to become a discriminating consumer of both material and cultural commodities; a desire to make profitable use of leisure time, and so on. Included among these students are physically handicapped people as well as inmates of Illinois penal institutions for both men and women. Some prisoners, in fact, have proved to be outstanding students; and their program, according to prison authorities, is a definite factor in rehabilitation.

About 40% of our home-viewers indicate that they hope to become teachers. Most of these people are housewives who plan to teach in elementary schools. The interest in teaching is so strong that in some terms the Chicago Teachers' College has permitted students with advanced standing to earn credit in the Teachers' College for selected TV College courses. Teachers in city and suburban schools have also taken courses to update their skills and to gain promotional credits. We have presented courses, for example, in art education, and we hope to present one in the new maths. Many elementary teachers want further work in science, child psychology, and the like. TV College is thus helping established teachers as well as bringing many others into elementary school teaching. There is a shameful waste of female talent in the United States, and I am sure in Canada as well, and many women during the years they must devote to looking after children may be offered the means to do something about teacher training.

How much do these credit students learn by television? The mature home-viewer, older and better motivated than a teenage student on campus, can consistently out-perform students of normal, college age taking the same courses in the conventional way. It does not make much sense, however, for us to compare the performance of a highly-motivated thirty-year old student with the performance of a seventeen year-old on-campus student; thus we now compare the performance of the TV student with the adult on-campus student. We find that the TV student tends slightly to out-perform his on-campus age peer. One conclusion is inescapable, even though this is greeted with sniggers by cynical teachers, and that is that the performance of TV students is not significantly different from that of comparable on-campus students.

Remember, though, that we are talking about performance as measured by examinations, the ordinary kind of examinations. There are, of course, other dimensions to teaching. Only the zealous hucksters (who harm the cause of instructional television) argue that TV instruction has all the dimensions of classroom presentation. Much college teaching—too much—consists of lecturing, no matter how small the groups involved. Expert practitioners of the Socratic method, however, are rare

on most campuses. They do exist, however, and, considering this dimension of teaching, even the most enthusiastic of television experts must find it difficult to imagine Socrates as an effective TV lecturer.

How do home-viewer students feel about television courses? In response to our questionnaires, most students report that they like the courses. We sent a questionnaire to former TV College students who had gone on to four-year colleges, and most of the three hundred who responded maintained that they learned as much from TV as they did in the classroom, and they earned about the same grades. Almost all consider TV College courses to be better organized than traditional courses; and this is an interesting point. Their answers also revealed that there is a direct ratio between the number of television courses taken and the degree of student enthusiasm. The student who has had only one television course may be indifferent or even hostile, but a student who has taken two or three is more responsive.

The performance of on-campus students who viewed TV College courses in their classrooms does not present a rosy picture. In order to bring their performance up to that of the adult home-viewing student we must offer each week, in addition to the televised classes, one hour of what we call a follow-up discussion conducted by the classroom teacher.

In considering the TV College program the keystone in this arch is of course the teacher. There is yet a residue of hostility that will manifest itself on occasion, but experience has taught us, and I am sure it will teach you the same, that the more extensively you involve your faculty in TV, the greater the acceptance will be. In our own situation we have satisfied our faculty members that we offer them fair compensation for their services, and we make every effort to guarantee them protection of their professional and scholarly standing. Teacher groups at one time did express concern lest televised education be second rate education. Some teachers even suspected the motives of the college administration, fearing that TV was a way of making a bigger educational bang for a buck. Indeed, many members of the Chicago City Junior College stoutly resist the use of TV courses in the classroom.

The attitude of the Chicago Junior College staff (of which, to repeat, TV College is an extension) may be summarized as follows (this summary being based on the results of a study to be published shortly, under the auspices of the Ford Foundation): a majority of those who

have taught on TV approve the medium in college instruction. Most of them, indeed, consider TV courses superior to conventional courses in preparation and organization. They were also appreciative of having had time and encouragement to try new approaches to their subject. About 20% of their colleagues who have taught only in the conventional way do not share these feelings; and another 25% are somewhat more unfavourable than favourable. Their disfavour concerns the lack of student-teacher contact as well as a fear that TV in the classroom marks the return of the oversize lecture sessions that teacher groups fought so hard to eliminate some years back.

Most of the teachers who have taught on TV seem to agree that there are no courses that cannot be taught on TV, although some obviously lend themselves more readily to it. All kinds of ingenious ways of encouraging student participation have been worked out. Institutions employing closed-circuit systems are currently experimenting with a variety of electronic feed-back devices, ranging from talk-back equipment that allows a class to interrupt a professor, to electronic boards and the use of studio computers.

Our TV College teachers, involved as they are in open-circuit broad-casting of their courses, rely for the most part on mailed-in assignments, projects, and campus meetings. Many of them prepare self-scoring materials, that is, tests based on the programmed learning principles that are incorporated in programs, and so on. Each home-viewer receives a bulletin that lists dates and times of conferences. The home-viewer can telephone his television teacher twice a week during hours scheduled for this. In certain courses the student is assigned to a person whom we call a section teacher, who grades papers and makes himself available by telephone.

For those who are interested in our operation we have published a booklet called *Eight Years of TV College*.

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Credit Course Programming: The University Television Teacher

SIDNEY S. LAMB,

Associate Professor of English, Sir George Williams University, Montreal, Quebec.

The television course to which I will refer was a second year course in Shakespeare, produced a couple of years ago by Sir George Williams

in association with the Canadian Broadcasting Corporation, who were very generous with time and studios. This course was broadcast to home-viewers in the Montreal area. As of this year Sir George Williams will be able to produce such programs in its own television studio in our new building.

There are several problems confronting the television lecturer who is innocent of the complications and frustrations of television, as I was at that time. The first thing he has to do is to get on with the producer and the floor manager. There is a natural conflict between the lecturer and these people. I know that there should not be, and I know that everybody here has been very kind about how television teachers are led through the highways and by-ways of studios by luminaries on the technical side; but there is a natural conflict here, just as there is between, say, a cook and a waitress. What the producer wants to do is to 'jazz up' the program. In fact, they used to refer to my lecture series, to my intense irritation, as the "Shakespeare Show: Shakespeare A-Go-Go." It was broadcast, I may say, in between "Captain Kangaroo" and reruns of "I Love Lucy". The well-intentioned producer will always want to inject a great deal of video interest, and it may well be video interest that the lecturer himself does not want. It is for this reason more than any other that one ought to stress the teacher's importance.

There is nothing difficult, as you know, about television — no great mystery about television production. What the producer wants to do is to lead you into the studios and let you go with a couple of resounding bits of pep talk about just being absolutely natural, as he twines another cable around your neck and fixes yet another thousand candle-power klieg light on your melting pancake makeup. He wants you, I think (and I say this with CBC producers in mind, and they are very good, well-intentioned men) not to worry too much about the funny stuff he is doing. But the funny stuff he is doing does often come into conflict with what you are saying. There are camera shifts, from one camera to another, the moves from one graphic to another, the way in which cues are presented, and so on.

All these present to the TV neophyte a very mysterious and insecure kind of situation. Until you know how these people do things you don't know what they are liable to do. If you put up a graphic, of Shakespeare's stage, for example, and you want to illustrate the *Romeo and Juliet* balcony scene, you cue in your director and somebody wheels a camera over in this immense mysterious darkness beyond you. What

you may forget is that all TV cameramen want always to fill their screen, and if you have a graphic that is taller than it is wide, they will dolly right in until they have just the central portion. So you go on for fifteen minutes with a brilliant perceptive analysis of this balcony scene, while the balcony is not adequately presented to the viewers. You never realize this kind of thing until afterwards; and this is one of the reasons why you have to get hold of your producer and try to intimidate him a little bit. It's hard to do because they are hard characters; but try to get him to explain to you just exactly what he is doing, and try, also, occasionally, to cut him down a little bit on the visual acrobatics. You have seen those television productions of people like Glenn Gould playing the piano, playing, say, a Bach partita. Now Bach produced his own musical crises within the partita; but your television cameraman is not necessarily a very high level Bach man and he wants to produce his own little crises; and you will all remember what happens. You get people dollying in and shifting back and sweeping around, and so on, totally fracturing the progression that Bach, and indeed also Glenn Gould on a good day, had in mind.

To consider the problem as it applies to the television teacher, we are all aware that when a lecturer in a classroom is making a point he counts occasionally on being able to make gestures, or to pause, or to do something that underlines what he is saying; and this kind of underlining, this kind of accenting, may be completely destroyed by an overtricky producer who is experimenting with various new camera angles, and so on. I remember once, after giving a lecture on *Hamlet*, venturing to ask my producer, in the humble way I had and still have with producers, if he liked the lecture. "Yes," he said, "it was an excellent lecture. You only looked at the wrong camera once, we didn't get any highlights off your glasses, and you ran exactly twenty-eight minutes, fifty-four seconds. Beautiful! Lovely! — What was it about? Well, Lear, Hamlet, one of them."

This sounds as though I am trying to cut out one of the most rewarding and powerful dimensions of TV, the video dimension. Now, in a course like mine on Shakespeare, there is not that much room for that sort of thing. There is an end to the usefulness of showing reproductions of the Globe Theatre, or John Gielgud in his Hamlet tights. You just can't go on and on doing them. The producer will, therefore, think that the program lacks video interest and will try to inject it.

An interesting experiment was conducted at New York University several years ago, with two courses, both on television, one with all kinds of video gimmicry, with graphs that melted and reformed themselves, and all sorts of wonderful things, and the other course with simply a lecturer talking to the students. The students all found the first one much more interesting, but two-thirds of them failed. I don't want to go on with the implication of this suggestion except to suggest that technical people involved in TV may want to make a little more video interest than perhaps is necessary, to make a Shakespeare "show", as they used to say, instead of a Shakespeare "lecture".

Another problem concerns the business of the organization of everything that does not go on television, and this must never be left up to the lecturer alone. A television course must be beefed up by a good deal of sent-out tests and forms, and bringing people in for conferences and examinations. Students for the kind of course of which I have been speaking are not attached to a campus at all, but rather to a kind of umbilical electronic tube; and you have to reinforce everything that they do by a good deal more connection with the teacher and with the university than would normally be the case. This was left up to me and I made a mess of it because there was simply too much to be done. I felt that the class needed a lot of reinforcement, partly because of the newness of the medium, partly because the series was a novel venture for us. We sent out a great deal of material, and this kind of thing seems better able to be organized by someone else. So, when a TV college course is set up, there should be one person to teach it, and another, or, preferably, a small committee from the lecturer's department, to do all the ancillary business of tests and setting up of conferences, and so on.

A further problem the lecturer faces has to do with the question of whether your course is presented on open-circuit or closed-circuit. When you are teaching a class of twenty reasonable students there are, as you know, certain things that you tell them and certain ways in which you present arguments that you would not use, or would not use quite as freely or as happily, if that class contained, as in my case it did, the whole of the Channel 6 viewing area. So envision your class, and then, from the last row on, a whole vista of those faces you don't want to see: there's old Aunt Effie; and perhaps a very critical wife glued to the set lamenting one's choice of tie; and, almost certainly, in a town like Montreal with four universities, all your other colleagues in the Shakespeare business, watching. — And just make one mistake! I got Mercutio mixed

up with Antonio once, and the phone started ringing three minutes before the program was actually over, and it kept on ringing. "Odd, you should make that error," and so on. I try continually to think of a class, rather than an audience, but after a while you do realize that you are talking to a good deal more than a second year class in Shakespeare. I remember one time I was illustrating some point about Antony and Cleopatra, and why, since Shakespeare's Cleopatra was played by a 14 year old boy, Shakespeare felt obliged to make a special point about Cleopatra's beauty; and I said that of course in a day when Elizabeth Taylor could be called upon by a popular playwright to play a Cleopatra, with Miss Taylor's much photographed and well known qualities and recreational possibilities and so on, one would never need the kind of text that Shakespeare was obliged to write. And on the street, in stores and elevators, people would turn on me and say, "Who are you to knock Elizabeth Taylor?" This kind of unexpected feedback was depressing. I have said that the TV lecturer has to be a sensitive man. He has, in some sense, to be insensitive as well. He has to put up with a good deal, particularly in a large metropolitan area, that his colleagues in class don't put up with - and this leads to the consideration of a point that has been made earlier, the hostility on the part of college teachers to TV teaching.

It is an odd trade, this business of college teaching. I know of no other trade in which nobody's performance is ever examined by their peers. Plumbers watch other plumbers; lawyers listen to other lawyers. Teachers at home and college don't listen to other teachers, and they are mighty wary of suddenly getting this kind of exposure. Whether this is a good or bad thing I don't know; but it is one of the reasons why the business of TV teaching is regarded with a good deal of suspicion by many of them.

Another practical problem you will face is the immensely complicated one of what is usually called released time. How much time do you give your college teacher from his normal commitment of courses to prepare a television course? Several years ago, in another connection and as a member of a committee, I wrote to about thirty-five places in the United States and Canada and asked them what they did about their TV teacher, how they paid him, or whether they released him from other chores, etc. I got thirty-five completely different answers, going all the way from one end of the spectrum, with college systems that allowed their people to teach, say, in extension courses on television and gave them a great sum of money but made them do all their normal

things too, to the other end of the spectrum in which colleges allowed total remission of normal course work in order to prepare the television course. This is another cause for tension among teachers. Some will ask why you need so much time off simply to get in front of that camera and babble away in roughly the way you babble in front of your classroom? And the answer is that you take an awful lot of time not because you are doing twenty times more work in studying Hamlet's motivation, or anything of that kind, but because, as all of you know who have worked in a TV studio, you spend a tremendous amount of time simply sitting around waiting — waiting for the lighting man to get through his business, for the audio man to get through his, for the cameramen to decide what they are going to do, and then to have your camera run-through, and so on. By the time you actually get to the lecture you are sick to death of it. Shakespeare has become a little lower than Mickey Spillane by that time. You have given the lecture twice, usually to some cameramen reading "Montreal Confidential" or "Hello Police", and you are a bit tired of the whole thing. Because of the nature of studio work you have a fantastic amount of pretty sterile time-filling to do, and it is for that reason as much as for anything else that the university TV teacher must be regarded as a rather special operator and must be given a great deal of time off, which the administration and heads of departments and other colleagues are very often unwilling to yield, or see no reason to do this for him.

These are some of the problems I ran into. Many of the television teacher's problems, as is apparent, have to do with the frustration he feels; and I think it ought to be emphasized that your camera work, your organizational work, the timing, placing, and so on, of your television lectures can be absolutely perfect, but if you have a frustrated, disenchanted, and tired TV lecturer in front of your camera nothing at all will improve your series. As has been said in one of the Ford Foundation reports, TV cannot make a poor lecturer better but it certainly can make a good lecturer poorer — unless, as I say, to go back to the beginning of this report, he is given a real, understanding treatment by the technical people around him so that he knows what is being done to him, how he is being shot, how he looks, and what he is supposed to do. So, to underline my first point, the very first thing that must be done in this business is to have a really close and sympathetic junction or association between the producer and the lecturer, between the technical people and the person doing his stuff on camera.

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Non-credit Instructional Programming for Adults

REVEREND J. N. MACNEILL,

Director of Extension,

St. Francis Xavier University, Antigonish, Nova Scotia.

I am going to ask you to accept a few basic assumptions throughout my remarks, and to point out that in our use of television at St. Francis Xavier University we have editorialized — we have a certain value system. We have set about to create attitudes, to create environmental understanding public opinion. Now these things are dangerous; but I do want you to see this in the context of our adult education activity.

Our university has employed many forms and methods of adult education during the past forty years or so. The first People's School at St. F.X. began in the early '20's. Adult students, mainly from the primary industries of the Atlantic area, spent several weeks during the winter on campus. Dr. J. J. Tompkins and Dr. M. M. Coady were the principal teachers. All sorts of conferences, courses, and lectures were organized throughout the rural, and then the industrial, sections of this area. This development, as is known, grew into what has been termed the Antigonish Movement.

In the early '40's the Extension Department realized the possibility of adapting radio to study-group techniques to reach many more people. One program series was called "Life in These Maritimes," and was designed for rural people and dealt with rural problems. People's School was then adapted for radio use to serve the industrial area of eastern Nova Scotia, and was linked with a regular program of weekly classes in several urban communities. These radio programs developed at the same time as "National Farm Radio Forum" and "Citizens' Forum," both of which were broadcast on the national radio network of the CBC.

Ten years ago the Extension Department put People's School on television from Sydney, Nova Scotia, using the local television station. Since 1956 we have continued to televise approximately twenty programs each fall and winter, and for several years we have produced a similar series from Antigonish, concerned primarily with the fishing industry.

It is curious that about this time, ten years ago, the University administration thought it might be a good thing to use television in some sort of "University of the Air" series. They sent a few people throughout North America to discuss this with other university people.

The committee came home and reported that it was completely unfeasible for our small university to think of a thing like this unless we had a lot more personnel and financing. That report remained in the president's office for a few months, and while it was there and unknown to our Extension Department we started a television program. It was only after we had been going for several months, and quite successfully, that we found out that this was completely unfeasible. Actually there was a time when the program was polled as the most popular feature program on the Sydney station.

Since the series was an outgrowth of the labour schools in the area, the content of the program followed this pattern very closely for the first year or so. Now that does not mean that all the programs were on labour topics or were labour slanted, but rather that there was a good sprinkling of labour topics and that labour was given ample opportunity to express its views; and, as in the labour schools, many community and national problems were discussed. The first six programs, for example, dealt with the following subjects: the labour of the community; inflation and its causes; labour-management relations; municipal problems; teacher recruitment and retention; and consumer education.

In the beginning there was apparent somewhat of a belligerent, controversial, and somewhat negative attitude in some of these programs; and those connected with the series were quite prepared to defend their attitudes. All this might have been a blessing in disguise, however, for it did draw a large cross-section of viewers. The program series became more sophisticated as it aged, and now serves a much wider area of interest.

Basically, we treat of topics especially pertinent to the social, economic, and educational circumstances of eastern Nova Scotia. Last year, for instance, other than the obvious concern with relation to the future of the coal and the steel industries, two major items were stressed at the meeting of our advisory groups: education, and economic development. Because it was felt that there was a general lack of information regarding educational opportunities outside the regular school system, a special series was presented on this topic. We prepared two bulletins for this series with background information, identifying in detail the various educational programs available in this area; and these bulletins were widely distributed to viewers.

Why are we doing this? Aren't there all kinds of other agencies to do it? — There are many agencies that are quite active in trying to make known the fact that there are educational opportunities available; and yet we find that there are many thousands of people who are not at all aware of opportunities in their own communities. Often, however, our Extension Department has an "in" with the people. We are able to get things across to them that others are not. And, by the way, the TV programs and the resulting discussions within viewing groups — we do have viewing groups — have revealed an urgent need for a community counselling and guidance centre where the general public might have access to information and assistance concerning all types of available educational opportunities. This service will probably be made available within the next year or two.

Another set of six programs concentrated on various agencies for economic development, both government and private agencies. We published a pamphlet to accompany this series, summarizing what these agencies (such as the Area Development Agency, the Atlantic Development Board, and ARDA) are actually doing. These are agencies that are trying to help people in the area, but, as I have mentioned, most of the people know little or nothing about the various services available, and how these services can be applied to local situations. We have also treated in our programming such subjects as civic government, family life, tourism, the fishing industry, urban renewal, low rental housing, and so forth. Last year we prepared, in addition, five sets of bulletins for the study groups, and we organized study groups wherever the topic warranted their being formed, and whenever time and personnel permitted.

The involvement of advisory groups and the planning of topics for television is an important aspect of our People's School. Our regular advisory board is composed mainly of representatives of labour organizations who, with the St. F. X. Extension Department, shoulder the major financial burden of the program. In addition, we enlist the guidance of an interested group of civic and business leaders. The value of this dialogue with labour and civic and business representatives obviously extends somewhat beyond the concern of producing a series of public affairs programs. These contacts furnish an excellent opportunity for serious discussion on many important community matters, and I think you will see that the TV programs are only part of our total involvement in the concern of the community. Television is simply one more instrument.

The format of our program is usually quite simple, and necessity dictates this. The viewer usually sees a panel or an interview type of program. Sometimes films are used, as are flip charts, blackboards, and so forth. The participants are usually from the area, with a sprinkling of outsiders who are actually experts in various fields. In the early days there was an attempt to promote or stir up controversy, and panelists were chosen with this in mind. Lately we have preferred to emphasize information even though the resultant discussion quite often engenders a mild storm. The program has always endeavoured, however, to present an objective and clear picture of the topic, and usually succeeds quite well.

Since the topics are of such wide local interest, and since the panelists represent a fair cross-section of the population, this program has been one of the major factors in helping to develop a great deal of agreement and understanding on many matters in these Cape Breton communities. There has been far less partisan politics and small-town isolationism in these areas during the past few years; and we believe that our Extension Department has helped to create a better attitude, and we see our television series as an important instrument in this program.

Our Extension Department supplies the personnel to research, manage, and direct this television series. Often this means a full-time person plus office clerical assistance. The University pays for this. The television station charges a low hourly rate and actually produces the programs. Labour and community organizations pay studio charges and incidental expenses to the amount of approximately \$4,000 to \$5,000 per year.

Even though the television series is able to be produced for this little money, it has become an important part of the life of the community. It has become an important factor in changing and making public opinion, and, as I have mentioned, we realize that this is extremely dangerous. However, we do everything we can to provide opportunities for everyone, with every opposing view, to express themselves on these programs. It has this feature, that the area I am talking about was at one time considered to be very radical — in fact, it was supposed to be communistically tinged. I think that this is certainly no longer true; and one of the reasons is that we have provided people an opportunity to express themselves openly and publicly. So, the cork is out of the bottle, and they are permitted, in fact challenged, to defend their views publicly before their peers.

I might conclude with some observations of the benefits of ten years of this type of non-credit instructional television. It produces a deeper knowledge and keener awareness of local problems. It helps to develop a regional oneness rather than a small-town selfishness. It enables many local people to have an opportunity to develop as leaders. It has given a platform for the expounding of ideas — a safety valve — but, also, the opportunity to have these ideas challenged publicly. It has presented many government agencies to explain their programs as they affect the local people. It has brought experts and the people closer together. Because it is a free agent, it has engendered respect and a following. It has shown that a university is concerned about local problems.

I would like to underline and emphasize the "free agent" part of our undertaking. It is extremely important in a democracy, especially in a democracy such as ours that is becoming more and more centralized. It is more and more important that we do have agencies that are free, that are able to discuss any topic and express opinions on any topic within reason and within decency. And I think this is going to be an extremely important point for the development of programming in this or any province. This has been something that has been attempted nationally by "Citizens' Forum" and other such programs. It must be done, also, on a local or regional level. Today I think we can say that the people of the area served by our programs are fairly well informed on many matters of serious concern to them.

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NHK Agriculture Programming

YOSHIO NEMOTO,

Manager, Agriculture Broadcasting Division, Nippon Hoso Kyokai (Japan Broadcasting Corporation), Tokyo, Japan.

Japan is a very small country (approximately a twenty-eighth of the area of Canada) and yet we have a population of 100,000,000, with 10,000,000 in Tokyo alone. How much these millions of Japanese people like television would surprise you. The broadcasting day begins at 6:00 o'clock in the morning and continues until 2:00 o'clock the next morning, and during this time, according to a survey conducted by the Television and Radio Institute of NHK, the average Japanese watches television for three hours.

It has been such love of television on the part of the Japanese people that has contributed to the remarkable growth of NHK. At present NHK operates two television networks, the General TV Service, and the Educational TV Service. Since the beginning of the television service in 1953 NHK television stations have rapidly increased in number, and as of last year (1965) the General TV Service had 286 stations, while the Educational TV Service had 278. In addition, NHK has two radio networks and an FM network. The General TV Service is received by 90% of Japanese households, while the Educational TV Service reaches 89%. From the beginnings of the radio service in 1925 the service has grown to the point that the Radio 1st Network is received by 99.7% of national households, while the Radio 2nd Network is received by 98.2%.

NHK, a public utility corporation, is neither a commercial broad-casting agency, nor is it government financed. It is financed on the basis of a receiver licence fee, with each of the more than 20,000,000 households contracted for listening to NHK paying a licence fee of approximately \$1.00 per month.

Noteworthy features of NHK's programming are as follows: first, we do not permit any film containing scenes of violence, such as gang films. This policy was established by a former president of NHK because of his concern regarding the influence of television on children. Secondly, cultural programs introducing overseas countries are presented during the so-called "golden hour", from 6:30 to 8:00 p.m. A program series of six instalments introducing Canada, for example, as seen by three NHK staff members, is to be presented during the "golden hour" beginning later this month. Thirdly, school broadcasts are strongly emphasized. Characteristics of day-school programming include the interchange of information and ideas between teachers and the program directors, and close cooperation with an advisory committee at the time of the production of a program.

Now I wish to speak about farm programming. — There are forty radio and television directors in my division. In addition, there are two or three directors of farm programming assigned to local broadcasting stations, to total 140 people. There are, further, 630 farm-broadcast correspondents who cooperate in the gathering of material. Each week fifteen television programs are presented, covering about seven hours, in addition to forty-eight radio programs covering nearly sixteen hours.

Farm programs have three main features. The first is to present actual conditions in the farm village to city people so that they will take an interest in rural life. Programs with such objectives are presented by "The Farmer's Hour," from 6:30 to 6:55 in the morning, from Monday through Sunday every week. This program enjoys great popularity: from nine to ten million people see it every morning.

The second feature is that there is a program dealing with the introduction of new cultural techniques, presented over the Educational TV Service from 7:00 to 7:30 a.m. This program, entitled "The Television Agriculture School," is aimed at providing information on new farm techniques for farmers in remote areas. At the same time, it presents methods of improving life on the farm.

The third is really a program intended to cultivate friendship among young farmers and workmen of city industry. Young people continually leave the farming and fishing industries for the city, and this program, concerned with manpower, was established for the purpose of giving hope to young people who remain in the rural area. Entitled, "For the Better Village Life," this program is presented every Sunday, from 7:00 to 8:00 a.m. It serves as a place where young men and women of rural areas exchange opinions.

In connection with this third type of program I would like to mention that NHK with the cooperation of the Ministry of Education has organized farmers' groups for the utilization of broadcasting. These groups are organized with the aim of helping the farmer to learn new agriculture techniques from NHK's programs. Thus the problems confronting young men and women of rural areas may be considered through these programs.

Beginning last year thirty such groups were organized in each prefecture with about twenty young people forming a group. This project is now being promoted in a five-year program, and the total number of members is already 50,000, with the membership expected to be approximately 300,000 by 1968. These groups utilize the program, "The Television Agriculture School," as well as "For the Better Village Life," and they are also encouraged to give attention to local programs like the "Radio Agriculture School."

NHK is planning to conduct a survey next year of these groups of young men and women in rural areas, with the cooperation of the Ministry of Agriculture, to find out what they wish to know and what they

are looking for. On the basis of such findings NHK plans to enrich its programming. We considered providing formal qualifications for those who have studied through farm programs; but it was felt that the farmers would be more interested in increasing the productivity of their farms than in formal qualifications. It was with this consideration for farmers' needs in mind that, with the support of local stations, NHK has decided to give priority to agricultural modernization loans to those who have completed two years of the "Radio Agriculture School". This is to be done in cooperation with provincial governments. Each year, in addition, NHK sponsors farmers' contests, selecting eight farmers from among four hundred candidates selected by all the local stations of NHK. These eight farmers are awarded the Agriculture Minister's Prize, and one of them is awarded the Emperor's Prize. Their children are introduced on television and radio on "The Farmer's Hour" during a two week period, and in this way they not only win the respect of others but they also learn to take pride in their work.

NHK of course produces many other types of educational programs. There is a special program, for example, for physically and mentally handicapped children, broadcast daily. One of the aims of this program is to teach parents of such children how to cope with them; for example, parents of children who have become mute because of illness are aided in teaching their children to speak. Another program, called "The Classroom for Mothers," has been established. Education today is progressing rapidly, and mothers who have learned through old-fashioned methods are often uneasy about the sort of education that is being provided for their children. They are also gravely concerned as to how they should provide home-education for their children. "The Classroom for Mothers" deals with such problems.

In conclusion I would wish to emphasize that the fundamental concept of education must always be clear in the minds of all who participate in using television for educational purposes, education, in my opinion, being the fostering of humanity in one person by another person, the teacher or instructor. I believe, finally, that in this endeavour television should be regarded strictly as a medium; therefore, to ensure success in the utilization of ETV, it is necessary that teachers or instructors should be aware that they should be the ones to take the initiatives. I believe that this awareness of the teacher's creative role in using ETV is of the utmost importance. This is the very reason why NHK, in its

school broadcasting on radio and television, has endeavoured to maintain close relations with the National Federation of Radio and TV Education, which is an independent research organization of 300,000 school teachers established for the study and utilization of school broadcasts and for radio and television education.

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'In-the-Plant' Use of Television

DR. L. J. GRIFFITHS,

Chairman of the Court Senate Committee on Audio-Visual Aids, Strathclyde University, Glasgow, Scotland.

Although I wish to talk primarily about 'in-the-plant' use of television, I shall also tell you something about some recorded lectures that we have produced in Stathclyde for a large number of students.

We define "in-the-plant" instruction as a situation in which television is used purely and simply as a visual aid, where the cameras are taken into the classroom, or the workshop, or the laboratory, in the presence of students and in the sole control of the instructor. This, of course, is the opposite side of the coin to the situation in which some external authority is called upon to bolster up, as it were, the work of the teacher.

Television as simply a visual aid is, of course, a very much less controversial topic than that which we discussed this morning, because it is a straightforward application of television to augment or perhaps replace other visual aids. It is an application of television that has come directly from the asking of a specific question about what we want to do in the classroom. We ask ourselves why do we wish to use audiovisual aids, and the answer is that we want everybody who is participating in the lesson, who is trying to learn, to be able to see and to hear. In this sense, I think, we have come around in a complete circle, from, first, the early days of the learning process where virtually it was from one man to another, from the teacher to one pupil, by word of mouth, then, through an intermediate situation in which we have been trying, particularly in universities, to cater for extremely large numbers of students at a time, where, in fact, any student not in the front rows would find it extremely difficult to see and to hear. And it is because we are coming back to the idea of a one-to-one correspondence that we are concerned with audio-visual aids. This is why there is such an interest in television as an educational aid. And, indeed, this is the same concern that has been expressed by those who say that the computer

system of learning returns us to the one-to-one relationship. The child has the sole use of the computer, or one channel of the computer.

We all know what the existing audio-visual aids are. We have the episcope, for example, which enables us to show any material in its natural form, as it were, such as a photograph, or a page of a book, or a map, etc. We use, also, the overhead projector to show material that we have in a transparent form, which we shine light through. The overhead projector has the advantage (unlike the episcope in particular) of not needing a great deal of blacking out of the room. We have, also, the projection microscope, that enables us to see very tiny objects or even things that one sees only through a microscope. We also have movie film and kinerecordings.

All these, in their individual ways, do a particular job. But, we ask ourselves, why are they not used? — And they are not used. We have an overhead projector in a large lecture theatre in Strathclyde and, to my knowledge, it has been lying on the lecture bench for the last nine or ten years. It's only now, in fact, that people are beginning to speak of the overhead projector as a valuable aid for teaching. Well, of course, the point is that these visual aids have their disadvantages, and they have rather crucial disadvantages to my mind. First, they are inconvenient. They have to be put out or taken away, and so on. And if you are trying to use them compositely it means that you are going to clutter up the teaching desk. Some of them, too, as I have indicated, require blacking-out the lecture room.

It is my contention (and we have operated in this way at Strath-clyde) that a single television setup can be used to replace the entire range of audio-vidual aids — not completely satisfactorily, but sufficiently satisfactorily to think of it rather seriously. Of course, faced with the educational explosion that we have today, authorities are prepared to spend a little more money at the moment. There is an awareness everywhere of the large numbers of people we have to deal with. At the university level we may be speaking to five hundred or a thousand students in a first-year course. At Strathclyde at the moment, for example, we have six hundred students taking mathematics, physics, and chemistry; and, shortly, by the end of the decade, we will have roughly 1500 students in each of these courses. Coupled with this concern for numbers is the awareness on the part of teachers that we are trying to return to a one-to-one relationship with students.

What do I mean by a single classroom television setup? It is, in fact, simply a single camera with a monitor for the teacher and monitors that the class can view. Instead of monitors for the class one may have a large screen. This kind of system may be procured at less expense, and to more effect, than a combination of other visual aids. It is possible today to purchase an adequate system that would include a camera, a monitor, and a videotape recorder for about \$6000. The videotape recorder can be used, for example, to pre-record pieces of film action that you may want to show in a classroom, and this may be done as effectively as an 8 mm. single concept plan.

In the classroom the advantages are obvious, particularly in the teaching of a science course. One can show an actual demonstration on the bench. After all, science is something that one does, and the pupil wants to see the actual hardware, the experimental setup, on the bench in front of him. You can zoom to a closeup of an electric meter, for example, or show things like Newton's rings by using the camera in conjunction with a microscope. All this can be under the control of the teacher, and it gives the pupil a range of experience that he does not get normally. In my university experience over the past years I have found increasingly that the idea of the lecture has become too much chalk and talk. But with television, with a little bit of extra trouble, one can get back to the idea of showing things to people rather than simply talking about them.

In the library, and in the workshop, the uses of television are obvious. In dentistry one can show dental cavities in individual teeth, and so on. In a workshop one can show a lathe, the readings on the lathe, the setting of the lathe tool, etc. And all this can be shown to individuals in a large group at one time. The biology teacher in the past would probably have worked with small groups of five or six students at a time, asking them to look into his microscope, telling them that the specimen shown is what should be seen in their own microscopes after they adjust them. But with television, even with a cheap system, one can show the specimen to large classes at one time. Thus a whole lesson can be conducted much more economically in terms of manpower.

Without considering further examples I would like to relate what I have been saying to the Newfoundland scene. I think there are three applications of 'in-the-plant' television that may be considered. First, there is the large number of students who take remedial courses, such as are given in vocational and technological schools and universities.

With television you can deal with a large number of students. You can bring them into a classroom and cope with them with fewer teachers than would normally be required; and this is an important factor when faced with the shortage of teachers that is prevalent today. Furthermore, this is a very efficient method of teaching.

Secondly, such a system should be in every vocational and technical school in Newfoundland. We have perhaps not heard enough about the crying need for Newfoundland to expand technologically. Within the next twenty-five years it will be technology that will be required and, consequently, I think there should be a remarkable build-up in technological schools; and giving them television is one way that this can be done. If necessary, through the exchange of videotape recordings, the 'in-the-plant' techniques such as we have been using in Strathclyde can be extended from one neighbourhood to another.

The third application concerns the teaching of teachers. I can think of no better way of teaching teachers than to let them have a small studio at their disposal. When I say a small studio you must not think of anything sophisticated. You should have a simple setup that the teachers can handle. It gets them familiar with television, with its limitations as well as with what can be done with it; and, indeed, it is a satisfactory experience, as I have found out, to give a lesson that is recorded and then look at it afterwards. We have been encouraged in Strathclyde University by the attitude of university people, and, as you know, university people are very independent and will not take to a medium if they don't want it. But it is surprising that a fair number have come along to try ten minutes or so, just out of curiosity. They come and they have a satisfactory experience because they have never seen themselves lecturing before. Furthermore, when you do a whole series, as I have done, you find out how bad your presentation is sometimes. As a result you become a better teacher. This is what I think we should perhaps be thinking about in Newfoundland, of raising the level of teaching. I think one must help the teachers to realize that they can improve their own teaching through the use of television.

I might now give you some idea of another use of television that we have been engaged in at Strathclyde. This is not so much using television as a visual aid, but rather as the televising of a set of chalk and talk lectures. We have televised and recorded a course in rather advanced mathematics for engineers. In the engineering class there are approximately 350 students who have to be taught mathematics at the third

year level, the penultimate year before they graduate. This course is of interest to us both because it is a fairly high level course and because of the economy of the production. We have a set of sixty lectures on tape which were given last year at the rate of three a week. To reach all of the 350 students we presented the lectures twice each day for four days of the week, using the fifth day for tutorial sessions. The students were supplied with notes so they could read them beforehand if they wished. There were some limitations because of the smallness of the monitors, twenty-three inch monitors, since you cannot show a long mathematical formula on them. You can do this if you have the money and the facilities — to have a large screen, for example. There was no sacrifice in quality, however. Please don't get the idea because I said it was economical that it was done in a slipshod manner. The quality of the presentation as a chalk and talk lecture was excellent most of the time, and there was no fall-off at all in the technical quality. The conclusion was that teaching by television was very satisfactory. It saved a lot of the teacher's time, specialist teacher's time, which could be used for other purposes, for research or indeed for seeing individual students or groups of students in the tutorial sessions which were part of the plan. The mathematicians thought it was a success, and next year they are going to do a series of one hundred and twenty tapes for 600 first-year students. This is an educationally sound way of doing this because, I say, you do preserve the one-to-one relationship.

Discussion Session

(1) ARTHUR KNOWLES (META, Toronto): Father MacNeill, in the experience of your Extension Department at St. Francis Xavier University has there ever been any attempt by station management or any other body to restrict or to control or censor the content of your programs?

REV. J. N. MACNEILL: To the best of my knowledge we have had no attempt on the part of the station's management. I know that they have been quite chary at times. They have wondered whether they should permit us all this freedom. I think probably because of the popularity our program has achieved we haven't really had any interference.—Our biggest interference has really been on the part of our friends, that is, the people in labour or in community organizations, who often want to go too far; and we have to try to be fair and objective. This is difficult, but we have been able to withstand these kinds of pressures.

- (2) James Wykes (Inner London Educational Authority): I had some experience of concern with adult education programs a few years back, and I'm thinking now, particularly, of the non-credit type that Father MacNeill was talking about, such as courses on citizenship, home economics, etc., and one of the problems that we came across was that unless you had group viewing there is no equivalent to the class-room teacher. We have not heard enough, also, about the accompanying literature, which has become very important, and how to distribute this literature. Another problem we had concerned the time of day for presenting programs, and what steps can be taken to find out who, in actual fact, is viewing them. These are all problems that must be faced when planning such programs.
- (3) W. G. Beaton (Deputy Director of Education, Glasgow City Education Authority): Professor Lamb, could you tell us if excerpts of any of your lecture series were dramatized. Were you able to present scenes, say, from *Julius Caesar* or *MacBeth*?
 - (a) Sidney Lamb: One of the sad things about this effort was the lack of the kind of visual support that one does want, in film clips, or acted episodes. This was frustrating since we could find no general repository of the kind of acted-out segments of Shakespeare that would easily fit into a lecture; and I would very much like to find out where one could get this kind of material. And actors themselves were prohibitive their union rendered them prohibitive as far as being paid for rehearsal and performance time.
 - (b) W. G. Beaton: We have in Glasgow a College of Drama and I wonder if it would be possible to use the students there to provide dramatic episodes. Is that a possibility?
 - (c) SIDNEY LAMB: We tried to do that with the National Drama School in Montreal; but there, again, we ran into trouble from the school itself, that did not want its students to be exposed in quite this way; and also trouble from the CBC, which was frustrating, but I think one could understand how it arose. We were operating with two-camera studios, and with the limitation of the number of things one could do in the studio.
 - (d) RODERICK MACLEAN: (Director of Television Service, University of Glasgow): I have come a long way to tell Willie Beaton that Glasgow University is using students from the College of Drama to record excerpts such as he describes; and I'll give him the loan of the excerpts if he likes.

- (e) ARTHUR KNOWLES: One of the real advantages of the ETV station is or will be the freedom to develop the use of actors and other artists who will be willing to operate within the frame of reference of education, and not within a show-business or commercial atmosphere, to permit the development of the kind of dramatic minuets that we in Toronto find almost prohibitive.
- (f) T. R. Conant (Director, Special Educational Services, WGBH-TV, Boston): We have found, in doing the Harvard University Extension courses, that the dramatic excerpt is useful. We did a Shakespeare program with M.I.T., in which we used semi-professional actors; and the University of Michigan has done several similar programs, and they, too, have found that professional and semi-professionals can do these kind of minuets very effectively.
- (4) Yoshio Nemoto (in response to a question): For the introduction of new agriculture techniques NHK has set up an Agriculture Experts Committee, consisting of professors and other specialists in this field. They are commissioned to find out the needs of farmers, especially in remote areas of Japan. These findings are considered in the production of programs, and this procedure has had a tremendous influence on the improvement of agriculture techniques of Japanese farmers. We receive thousands of letters each day, and the Agriculture Experts Committee responds to these questions and comments from the farmers.
- (5) CLIVE HEWITT (Deputy Director of Television, Leeds University), Chairman of the Session on "ETV for Adults": In concluding this session on the use of television for adult education, I may simply note that it is quite clear that the ETV developments we have been discussing are not going to happen overnight; and it is going to be rather expensive if done properly. Among reasons for this is that television is only a part of what has to be done in adult education. One has to develop a complete structure in which television is important but by no means the only component. In addition to the production of television materials there must also be a distribution system, but, perhaps even more important, there must be properly devised reception arrangements. This implies not only equipment, but people at the receiving end, agents or agencies of the adult education body. There clearly must also be considerable attention to the provision of back-up materials, of notes of support, and demonstrations that can be taken to remote communities from time to time to provide reality as well as two-dimensional pictures. In this connection there is obviously a need for a link-up with

a number of agencies. In conclusion, I think it is clear that adult education, like all other teaching by means of television that we have been discussing, is not and cannot be a passive activity for the student. The student must be involved. He must feel that he is actively participating in something rather than simply receiving something.

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CHAPTER V

PROGRAM AVAILABILITY AND PRODUCTION

Session Chairman

RICHARD OLDHAM, WGBH-TV, Boston, Massachusetts.

It takes a great deal more work to create a program than it does to put it on the air; and it takes a great deal of money to produce even a few television courses, ones that the children will learn from and will even watch. Programs which make full use of the television facility cannot all be produced locally; yet some must be, because the characteristics of the immediate area are most important, especially to the local children; and in some cases the subject areas most prominent in the local area are of the greatest interest to the people all over the country, or, in some cases, all over the world.

Where can Newfoundland find the good, outside programs that will permit it to concentrate on the work that it can best do locally? This is a broad question that we will attempt to answer today.

* * *

Program Availability: U.S. Resources

EDWIN COHEN,

Executive Director, National Center for School and College Television, Bloomington, Indiana.

Our panel, in our various presentations, will reflect a bias. This bias is as relevant for an area such as yours as it is for many places throughout the world (resources are in great demand, and they are also very much limited). The bias on which we agree is that fundamentally the impact of a television presentation upon students, and in a classroom, is the equivalent of any other major instructional resource. It has been

said, in fact, and there is some research to corroborate this, that frequently students will believe in the veracity of a television teacher even more than they will in that of a teacher in the classroom, and in that of a text book. The very least I think that one can say is that the role of the television program in the classroom is equivalent to that of the text book, and, as a consequence, I think the analogy of the creation of text books is one to bear somewhere in the back of your mind when you consider the creation and obtaining of materials for television.

Many places in the planning and in the actual initiation of a schedule of broadcasts for schools, begin with the notion that at least they owe it to themselves and to those who pay the bills, and those who will use the materials, that they ought to look at materials they can find that others have produced first. I think that they do this not only because they want to be sure that there is nothing in existence they could use, but also because of the economics of it.

There is a more subtle psychological point of view, too, and that is that television is awfully public. If the system you plan to use is an opencircuit system the public will be privileged, or shocked, to see what you are doing. In many respects, television is the opening of the door to the classroom, and classroom teaching is not generally the privilege of most of the public to see as it actually goes on — indeed it is not the privilege of most school administrators to know really what is going on in the classroom in the way of teaching. As a consequence of television's opening the door to the classroom, any deficiencies in instruction that are committed on television are magnified perhaps out of all proportion. And, as usually happens psychologically, in order to initiate any television system, you have to oversell it, which is to say that, as many politicians do throughout the world, you have to promise more than you are actually capable of delivering; and the reality of the 'morning after' is soon apparent to everybody. So, as a consequence, in order to launch a strong and acceptable schedule, many are certain that they ought to get materials whose values are known to anchor that schedule. I bear down heavily on this point because I think there is good reason for you to want to look at materials that come from other places. And if this is not at all persuasive, and you are going to produce everything yourself, there are some experiences that have been learned by others that are evident in the things they have done, and on inspecting them you will probably find good points of departure for your own local activity.

Another point to remember, judging from my own experience, is that a double standard will operate as you look at other people's material. One tends to exaggerate the deficiencies of what others have done, and tends to blow up out of all proportion the strengths of what you yourself will be doing; and it will be several years after you have been in the production and utilization business before a perspective develops. As the years pass one develops more objective perspectives of the value of materials, and I am sure that your expectations for quality will rise. This is inevitable and desirable.

I shall now say something about what television materials are available in the United States, and how you obtain them. We have to consider three factors when dealing with the question of availability. First, a program series may have written information about it describing what is in the course. There are many courses produced in the United States by school systems that are not, however, in the business of providing materials to anybody else. You will find out about these courses, and these people frequently will consider it a nuisance when they receive correspondence, and they will not reply. Secondly, you cannot know how good, how applicable, a course or a series is until you have actually seen one or more lessons, and have actually inspected the accompanying materials that are designed for the teachers and the student. Thirdly, and most difficult, I think you have to satisfy yourself that you can make arrangements for videotape recordings or film transfers or film of the necessary quality, that are within your purse, and legally cleared for use.

Having said these things I would like just briefly to sketch the major sources of programming from the United States that may have some applicability here. When considering availability or programs one should keep in mind three main categories, that is, (1) materials designed for in-school reception, (2) for the in-service education of teachers, and (3) for the education of teachers in the utilization of television.

There are at present three national agencies that have been created in recent years to provide material throughout the country and, indeed, across the border. One of them is the organization I represent, the National Center for School and College Television, in Bloomington, Indiana; a second is the Great Plains Instructional Television Library, in Lincoln, Nebraska; and a third is the Midwest Project for Airborne Television Instruction, in Lafayette, Indiana. In addition to these na-

tional agencies, which do have a commitment to answer their mail, to provide preview materials, and to make arrangements to provide broadcast materials, there are other significant sources that have smaller collections of materials. Among them are the Eastern Educational Network, in Boston; a multiple of local television stations throughout the United States, the names and addresses of which are available through our organization or through the United States Office of Education, in Washington, D.C.; as well as a number of universities and state departments of education that have produced and controlled various television courses.

Relatively speaking, there is more material available in the categories of programming I have mentioned than any other category of instructional programming. I think, in fact, about 85% of all instructional programming is aimed at these categories, with particular emphasis on grades one through six, and hardly any material available for grades seven through twelve. At the college level a certain amount of material is available, but certainly not nearly as much as there is school material. I might mention that the material of Chicago's TV College is available, in large part, from the Great Plains Instructional Television Library.

When you consider adult education programming the agency to contact in the United States is the National Educational Television organization in New York City; but, in addition, there is a cooperative exchange agency for all the producing stations in the United States, that is, the Educational Television Program Service, in Bloomington, Indiana. Some material can be obtained from individual stations, and the University of Michigan has a modest service.

Another category of programming is directed to the continuing education of professional people. At the moment this is primarily in the health sciences, with emphasis on the continuing education of medical doctors, and lesser amounts for dentists, and then nurses. These materials are obtainable from several sources, and those who are interested can find out these sources through our organization.

Finally, there is a category of material designed for industrial training which, I think, will be a growing category. Some of this material is available from the educational television station in Minneapolis, as well as the Educational Television Authority in the State of South Carolina.

The experience of the last dozen years is contained in the recordings you will be able to get and inspect; and these should provide the point of departure for your own efforts and expectations.

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Program Availability: Priorities

ARTHUR F. KNOWLES, Executive Director, Metropolitan Educational Television Association, Toronto, Ontario.

I approach the question of availability from a standpoint of program development, having been involved, at least in microcosm, in the problem that will be faced in Newfoundland in the development of programs. In this method of approach one must consider standards or criteria one should use in deciding what kinds of programs should be developed in an area; and this leads to considering, at least in summary, the kinds of purposes that you would want to see reflected in the programming.

There are three basic kinds of purposes that one may serve in educational programming. There is, first, the category of programs of direct educational content for school use at the elementary and secondary levels. Secondly, there are programs of an adult education character ranging from basic adult education courses to university level courses, and including courses directed at the professional development of teachers. Thirdly, you would want probably to offer informational, cultural programs of a wide diversity of type and subject, for the enlightenment or enjoyment and stimulation of viewers.

To carry out these things you will also have to keep in mind standards or criteria not only in the producing of your own programs, but for those you would bring in. You will want to have quality in presentation. In Canada we have become used to production techniques of the highest quality through the CBC or through CTV and private stations, so we must have all of the proper engineering and technical facilities.

There must also be, in the programs you would develop, a willingness to innovate. It seems to me that we must be daring enough in educational television to challenge some of television's customary procedures. You are competing with "Batman" and "Man from UNCLE" in terms of techniques, and you are lost unless at least you try to cope with these efforts. There needs to be vitality in your programming. There must be an interpretive approach to the local area. You will need, also, to consider diversity, and, as Ed Cohen points out, this is often a major

problem, with major gaps left in areas of programming. And, as Dr. McCurdy stressed, there is the need for a broad base of support and participation by community institutions. From his special standpoint, Dr. McCurdy emphasized participation of teachers, and I agree that this must be a major factor in the decision-making about policies in the area of program development and availability.

To carry this out we must know the sources of programming. Ed Cohen has already referred to some of these. The organization I represent, META, has drawn up a list of materials and sources that range through the local resources, Canadian, British, United States, and a wide variety of others. Without elaborating on these specifically, since you may read them at your leisure on the sheet I have distributed, I would prefer to suggest that in one's concern for program development we should be reflecting the local, provincial, regional, or national needs relative to the particular objectives of the proposed program; and in Newfoundland. as in other parts of Canada, there must be a heavy reliance on local specialists and institutions. Your own people are the most likely source of much programming, and effective use and development of these people and agencies will go a long way in creating the program that carries out the objectives that you consider important. In the final analysis, however, the main effects on most Newfoundlanders will be felt not as on-camera teachers or program developers, but as consumers or learners from educational television, either in the classrooms or in some of the outports. So let's not be deluded or misled by the bright, shiny hardware, or the bright, shiny program that appears on the scene. It really doesn't have any intrinsic magic. You will have to put that magic into programming yourself.

BBC Resources

E. IVAN GILMAN, Chief Assistant to the Controller of Educational Broadcasting, BBC, London, England.

There are two things that I want to talk about particularly. The first one relates to the training of key personnel for an ETV station, and the second relates to the question of availability of program material.

You will probably need the following key personnel, and probably in this sort of order. First, a station manager, who must, I believe, have qualifications that include the following. He must first have a knowledge of management problems insofar as they relate to a staff of creative workers. The management of creativity is a special skill. It is not like the management of productivity. Secondly, he should have enough practical knowledge of production techniques so that his technical producers will not be able to pull the wool over his eyes when it comes to points of interference or coordination that he may wish to make. Similarly, he has to have enough knowledge on the engineering side to keep his end up with the chief station engineer. He must have an appreciation of cost structures and of cost effectiveness, in relation, for example, to the systems that will be offered to him by the hardware specialists who will come flocking here once they hear of what's going on.

Then your station manager must be knowledgeable about programming. Part of my job, for example, relates to the fact that the cost effectiveness as between radio and television is on the ratio of about one to seven in the United Kingdom; and we have to decide what we can best do on radio or on television. In understanding programming your manager should also know about other available audio-visual aids.

The final qualification of this paragon is that he must have the knowledge of the effective methods of cooperation with the educational world that he serves. Collaboration with the educational world is the key to the whole success or failure of any operation that you may launch here.

What can the BBC do to help you to train such a person? — We would take a station manager on an attachment, to sit him alongside the heads of our two output departments dealing with school, and further educational output. He would talk with our coordinators and administrators; and he would observe our own consultative machinery, the School Broadcasting Council and the Further Educational Advisory Council, at work, not with a view to copying them, but in assessing what would be the most applicable ideas in the Newfoundland context. (I should add here that there is no such thing as a BBC educational broadcast. The BBC provides educational programs at the request of these two bodies which are representative of the educational world). Finally, we could offer the station manager a full television production course, which could run over three, or six months — although there is a snag here, since there is a price ticket attached to this course. You have probably heard about our wage-freeze, price-freeze, and cold economic climate; and the BBC is about \$60,000,000 in debt at the moment. But we could offer this at cost, and the cost would be about \$3,000 for six months.

The second sort of person I think you need is a highly trained senior producer, a person equipped to create, in time, a team of producers from Newfoundland. This means, in fact, that he must have far more television know-how than he will ever need to draw upon directly in the presentation of the output from your station. Here, again, we would offer such a person a full six-month television training course which consists, to begin with, of two months of television direction in the specially designed training studio. There is nothing gold-plated about this. It is not a major BBC studio with seven camera channels, and so on, but is a specially built training studio with three camera channels, a small floor area, and very much perhaps of the general sort of setup that you will probably be working in here. Next there is a month's course on film, on the uses of film; and then, especially, three months working attachment as a producer with one of our network educational output departments. This would give him an all-round feel of the sort of job that he would have to do.

The third type of person I think you will need, and pretty early on because the hardware merchants will be on your doorsteps instantly, is a station engineer. The training he would need will depend very largely on the experience he has when he is appointed, and the size of the project you envisage here; but, again, the BBC has an engineering training centre, and we do run courses which vary in length from three weeks to six months, and we should be very happy to build into one of our courses any representative from Newfoundland ETV.

The final person you need will be a graphics expert. You may find him perhaps in the film world. He needs to be a sort of general factotum, able to do everything, from producing printed captions, processing and making photo captions, to making a model of an Indian village, a space rocket, a volcano. He has to be able to make animated diagrams, and so on; and all of these things can be done in one place by one person, as I saw to my intense interest when I visited the Centre for Educational Television Overseas, where they have such a paragon.

The second main theme I wanted to talk about is availability of material. Obviously what we make for schools, or for adults, in the United Kingdom is not necessarily going to fit, tailor-made, into your own situation here. But there are items in our current list of material that have more than a local interest. For schools, for example, we have a junior science teaching course, a course in which teachers can build the work in junior science. We have a geography series, "People of

Many Lands," for children about eleven to thirteen years of age, which includes film specially shot in many parts of the world. We have a history series, "The Story of the United States," which goes back a couple of hundred years; a main feature for educational purposes dealing in depth with the events of 1940; three series for schools treating the "New Mathematics" at three different levels; a secondary school series on "Approaches to Physics." In Further Education we have beginners' language courses, running about 40 weeks, in French, Italian, German, and Spanish; and we can offer high level lecture material on such subjects as gravitation, molecular biology, particle physics, and so on.

These programs seem to me to be able to be made applicable to this country as well as to our own. If you don't want whole programs you can take excerpts. In addition, the BBC has a film library containing material going back to 1925, and there is a good deal of newsreel footage available.

But film is expensive, and this fact must be faced. A 16 mm print that you would run through a telecine chain will cost about \$70 for half an hour; and, if you make this 16 mm print from a video recording or from a 35 mm film, you must add conversion costs, which can be as much as \$300 for half an hour. But the real 'fly in the ointment' is what we call "residuals". People who appear in television programs expect to be recompensed for their appearances; and if their material is used for purposes beyond what has been contracted for they want more money.

Programs that you might want to obtain, either from us or from any other organization, may also contain film sequences. Some of this film might not have been owned by the BBC and before we can send it out we have to pay again the library or agency from which we had initially procured the film. Similarly, we would have to pay photo agencies for their material. Thus, total costs for performance, film inserts, stills, and so on, could amount to \$1,000 for a half hour program; and if the BBC is going to send out 40 such programs in a year it becomes expensive. But don't lose heart. There are, in fact, ways around this problem.

First, there is always the possibility that a film that you ask for from the BBC might have also been asked for by somebody else. We sell about 60% of our educational materials, in fact, to Australia, so the probability is high that Australia might have ordered it first; in which case somebody else will have paid the residuals, so your cost may be reduced by an additional \$500. But the real solution, and this

is really the basis of what I want to say to you, is that there might be a truly national centre in Canada where such television materials can be bought, stored, catalogued, and known to be available, a centre which can afford the high initial costs and which can spread them over many stations on a rental basis at a modest cost.

You heard earlier in the week of the suggestion made for a national audio-visual-aid centre in the United Kingdom. This is becoming increasingly important because the Independent Television Authority and the BBC are, in fact, trying to discover ways of working more closely with the closed-circuit systems that are emerging. Such a national audio-visual centre will be of great help in the United Kingdom as it would be here in Canada.

There is a further point worth considering. The BBC, the ITA, and various representatives of the European Broadcasting Union are sending a strong delegation to Stockholm in 1967 to secure a revision of the legal convention applying to copyright, so that educational television materials of all kinds can be exchanged at something far closer to basic print cost than is at present possible. Norway, Sweden, and Denmark have already opted out of this convention, with the result that there is a much freer exchange of educational material between these three countries than there is anywhere else in Europe. So I think we should all look to Stockholm in 1967 as an important date on the ETV calendar.

Finally, if nothing of what I have said is of any use to you, remember that BBC program material is available for study purposes to anybody working in Newfoundland at only freight cost. You have only to ask for it, then you can look at it, get ideas from it, and send it back again. Furthermore, teachers' notes, pamphlets we produce for schools, and communications documents are available. If you would like to be put on the mailing list we can send them to you — not with a view to your copying them, but merely to provide ideas of things you might bear in mind when you prepare your own.

Production: National Film Board Resources

HANS MÖLLER,

Director of Filmstrip Production, National Film Board, Montreal, Quebec.

For visitors to Canada I should perhaps just say that the National Film Board is a federal agency, a national production and distribution organization concerned with the production of films and with other related media. Among many of the Board's activities is its educational program, an increasing program that has changed its character in recent years, and which is becoming more and more an important part of our work. This program includes the production of 16 mm films, filmstrips, slides, material for overhead projectors, still pictures, and, more recently, the silent cartridge-type 8 mm loops.

The characteristic thing about this program is that we have for a long time made every possible effort to work very intimately with teachers. I think we can now say with some justification that we could not say in the beginning, that is, it is a truly teacher-oriented program. We have teachers involved in our daily work. A number of our staff are teachers or recent teachers. We work with teachers not only as advisers (we have done this for years, but I think that it has never given the best results) but, much more interesting, we have managed more and more to involve them actively in this work, to offer advice, make program suggestions, and to explore program possibilities; and, better still, as script writers, participating in the production at various stages of development. A number of teachers from all over Canada are actually working with us and are either coming to the Board or having us come to them.

Another important factor is that we are constantly exploring the relationship between different visual media. We must remember that television is only one of the educational media. There are many others that teachers are at present a lot more familiar with in their classrooms, and we must not ignore these other media. We must understand the interrelationship of these different classroom media, and we in the Board are extremely interested in understanding what educational television is going to do as compared with other media. We are, I think, beginning to understand far better what a 16 mm film can do in a classroom, what subjects we should cover by a 16 mm film, what filmstrips we should produce, where slides will fit in, when overhead projectors may be used, and how this is all correlated and integrated to cover subjects in the best possible way.

There is a matter, also, of cost efficiency, a factor that we should keep very strongly in mind, especially when we get into the vastly expensive operation of educational television. What I mean is that we should produce the material that is educationally the best for the purpose, and we should watch that we don't become religious about any one medium.

One medium is not necessarily better than any of the others. In any particular situation we should adopt the medium that gives us the best education.

Concerning television, we are very interested in learning and understanding what is the special contribution in education that television can make without dropping everything else; and where do the teachers fit in, what do they want, how can they use it. And let us involve the teachers in our deliberations and study of this. This is a continuing thing, not something that we at this conference can have conclusive ideas about, but something that, over many years, we will have to discuss and try out and evaluate. Is educational television merely a convenient distribution method? To some extent I am sure it is; but I am not satisfied that it is entirely. Educational television must have a special language of is own, and let's try to find it. I'm not sure that we have. There are experiments here and there that suggest that educational television can be far more interesting than it generally appears to be. So let's try to explore this special language and let us experiment with the medium, as we have for many years with other visual educational media.

Where can the National Film Board fit into the picture of educational television, which, being educational, must be the responsibility of provincial agencies? The Film Board is able to provide a variety of kinds of material for educational television. Not only can it be film, but it can also be still pictures and graphics. There are resources at the Film Board that can be used. We have an extraordinary catalogue of still pictures that I think every ETV centre should have as a resource. As for graphics, we have literally thousands of interesting graphics that it would be pointless to reproduce or duplicate in ETV centres. For instance, I have produced a number of history film strips, and in so doing a lot of research and study has gone into the making of the graphics, and some of these can be made available to ETV stations. There is another element that is new, the 8 mm loops which we are immensely excited about because we think there is a particular educational value in them; and they free us from doing some of the things we used to do in 16 mm film, and thus they free the money and resources for the most essential things that 16 mm film can do. These 8 mm loops, as you know, are silent, but they might well fit into certain ETV programs as footage or source material.

Some of you may ask the practical question: what are the prices? I can't be definite here. This would be negotiated in each case between the Film Board and the local ETV organization. In general terms, the rates would be about half what we are charging for commercial use of the material. It depends in each case on the number of stations involved, and I think this is a matter that we must explore further in the next few years as ETV develops.

The second thing is that it would be possible to produce certain material that would be designed for specific ETV programs. On how big a scale this can be done is impossible now to say, but I think this is something we have to discuss. I would hope, in any case, that ETV people would not just consider the Film Board as a library from which they can get material to fill in time, but that they think of it also as a place they can come to and work with.

Thirdly, I think ETV people could be actively involved in some of our work in the way teachers are involved. We have learned better and better, I think, to work under such conditions, not in such a rigid way that everything has to be done by our own people. ETV people could probably come to the Board and be trained for a limited period of time. We don't have a school — we are not allowed to have a big school setup — but we are training people by the dozens from overseas countries. Every year we have people visiting us who spend a couple of months with us; and this has, I think, a tremendous value. We are lucky to have an extraordinary production setup, and it is within the Board's responsibility to offer advice and help to people in the field in Canada as well, just as we have been serving internationally. I could easily see a couple of people working in my particular division, simply for instruction, or in doing editing, or working with graphics, and so on. I am not saying that we know everything, because we don't at all. But I think there are a lot of facilities at the Board, and there is a lot of expertise that can be drawn on.

I would also like to see some NFB people going to ETV stations to learn how work is done there. I think this would be a mutual enrichment and of tremendous advantage to us. The Board, specifically, would always be able to provide technical advice. The Film Board is now twenty-five years old and has had a marvelous opportunity to develop experience in many fields.

I would also hope that the Board could help with workshops, perhaps to sponsor workshops and conferences with teachers, and evaluation ac-

tivities involving teachers and children, etc. The Film Board, as a national body, could probably help to arrange such workshops, and also to arrange for the exchange of material. There is new legislation being considered that might alter the situation, but certainly at this time the Film Board, with contacts all over the world, could become an agency that fills some of the needs in the exchange of programs between Canada and other countries. As we have heard from the BBC, there are costs involved here, and if each province individually is going to negotiate with the BBC it could be costly and complicated. A national organization could obviously provide a clearing house and perhaps even have funds to pay the royalties or residuals that are necessary so that material could be used by a number of ETV stations.

When Newfoundland develops its ETV program I can only say that the Film Board is going to be ready and extremely interested in helping, because we have something that I think we can help with, but mostly because we want to learn and to understand more about educational television. I would hope for an intimate work relationship, not just a polite gesture. I think we need all the resources that we can pool together in Canada in order to make educational television far more interesting than it is now. I am hoping that the National Film Board can help to provide some support in exploring the true educational potential of television as it relates to other media.

Production: Priorities and Planning

MURRAY CHERCOVER, Executive Vice-President, CTV, Toronto, Ontario.

The agenda suggests that my responsibility is to present some thoughts on production with perhaps some emphasis on costs. I would like to broaden the topic to include the exorcising of certain ghosts. Despite views we have heard to the contrary I would suggest that production, in educational television, should not be considered a nemesis, not by educators nor by administrators. Television production is a skill that can be understood and assimilated. After all, teachers have been able to learn to drive, or fly, or cook, or pursue complex and diverse interests, and, more important, they have been able to learn to teach. I know they can also learn the application of the new techniques of presentation through ETV.

Program production is not easy to isolate for examination. Production is to a great extent influenced by the nature of your plant, but, most important, it is influenced by the dictates of the content of the program you want to do. Production does not begin with the arrival at the television studio. The blueprint, the decision as to what goes into a program, is part of production; and, perhaps more important, the evaluation of what has been produced, its usefulness, its effect on the users, is the final part of the total production equation. These two factors, the blueprint and determining whether you have reached your determined destination, I will leave to the qualified educators.

Costs, of course, are seriously influenced by all of the foregoing factors. It is inevitable, for instance, that if you have a marvelous three-camera studio, fully automated, with maximum telecine and videotape facilities, most producer-directors will be inclined to utilize all of these facilities. The judgment on what is to be used, however, has to be made by senior people who have production know-how, who can examine each program project in relation to its content, its goals, the audience it seeks to serve, and the needs of the audience. On the basis of these considerations, a realistic budget can be established. Now with considerable experience with production in private and public networks, nationally and locally, in Canada and the United States, I can say that any budget established arbitrarily, without reference to the purpose of the program, will be inefficient — not only inefficient in the specific regard that too much money may be spent unnecessarily, but that too little money may be spent, and the program will not do the job it was designed to do.

To give an illustration of this problem, a broadcast operation may specifically come up with an evaluation of the cost of programming. It might be determined that the average cost of programming has been, say, \$2,000 per half-hour. Then the next time a producer or a teacher proposes a half-hour program the administrator might well say, "\$2,000 is your budget." But after an examination of the program, its goals, etc., a more realistic assessment might be that the program could be produced for perhaps \$300 — or, on the other hand, it might need many times \$2,000. In one case a proposed program might need perhaps only a half-hour with your crew to set lighting, to check shooting angles, and to line up your equipment; or, on the other hand, some technical subjects may require a good deal of pre-film shooting, and carefully staged studio experimental work requiring the most time-consuming kind of production, and may end up costing literally tens of thousands of dollars.

Time was part of the cost of the preceding examples — time in the studio and with facilities; and this suggests what I consider to be the most important single factor regarding television production. This is pre-planning. It is vital to achieve efficiency, to achieve control, to achieve reasonable cost, but, most important, it is vital to quality. Most of us have a certain system of facilities on which we can depend when we haven't done our jobs right, when we haven't pre-planned adequately. But, by and large, the most creative and effective programs are produced as a direct result of endless hours of evaluation, plotting, scheming, and thinking; and none of these things can be done in the studio where time is money. When expensive equipment is operating unnecessarily, when skilled and expensive man-power, technical and creative, are idle, when studios representing sizeable capital investment are unproductive, time is truly money. Production pre-planning is not a cliché, it is your guarantee of productivity, high quality, and administrative control.

We have all heard the other cliché about quality: you get what you pay for. This applies to production in particular. I don't want to deal with the technical aspects of hardware. But when it comes to key personnel in production I can only give you one axiom: buy better than you can afford. The importance in productivity in the quality, in efficiency, will far and away repay you for overspending in this area. These very few key personnel, in production and production administration, will guide and direct and train your junior personnel in the years to come, and they will assure maximum useful productivity for every production dollar you spend. Not only your producers, directors and cameramen are important, but, perhaps most important, they will introduce your lecturers to the so-called mysteries of production, to enable them to match the techniques of presentation to their content material.

In summary, first, teachers and administrators in ETV must conquer their fear of the unknown, for the unknown is merely a tool, easily understood, and infinitely useful to them. It is not a threat. Secondly, buy the most qualified production people you can. They will provide rewards for you far outweighing their costs, and will assure maximum continuing efficiency. Thirdly, with respect to each program, know your purpose, ask yourself who it's for, what their needs are, why they need it, and how you can best present it. The content is vital in determining the form of the presentation. Fourthly, after the production, don't be afraid to admit that you made mistakes. Evaluate your material,

validate what you have produced, and when it doesn't measure up to your requirements, declare it obsolete and start all over again. Finally, when you approach the time to enter the magic, mysterious world of cameras, lenses, klieg lights, and timing — 'show business' — determine that you have planned and pre-planned, re-evaluate and plan some more before you even book your studio, then re-plan and re-evaluate, and, finally, move into the production area. I can assure you that with the application of this principle you will be amply rewarded.

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Production: ETV in a State System

JERRY DePRENGER, ETV Producer, KUON-TV, Lincoln, Nebraska.

When flying into St. John's I saw the beautiful shoreline, with the surf and the rocks, and the question occurred to me, after having just left the flat prairies of Nebraska, what have I got to say to people here; but, after having been at this conference for three days and being able to chat with a number of Newfoundlanders, I find that there are several quite close parallels that exist between this province and our state. We have a good deal more in common than would be suggested by the contrast in terrain.

There are in fact four major areas where distinct similarities occur. First, there is a relatively sparse population, including a metropolitan area, and many pockets of small communities in a widely scattered rural population. Next, there is a substantial number of classroom teachers who are not as professionally qualified as we would like. Thirdly, we have small towns of rural population largely dependent on one industry, fishing of course in Newfoundland, and agriculture in Nebraska. And, finally, and this is pure conjecture, although I know it is true in Nebraska, a characteristic of many of these people in rural areas is to approach new educational ideas and new technology cautiously if they approach it at all.

Within a context of these factors, beginning about twelve years ago, we have attempted, through educational television, to face these problems and do something about them. What we have done, briefly, is this. First, regarding the broadcasting system itself, we have a very comprehensive network, an open-circuit network, which reaches both schools and homes in the State. It consists (or it will when it is completed) of

five VHF channels, four of which are now on the air, two UHF channels, one of which is on the air, and several translator or repeater transmitters which fill in pockets or areas not reached by the normal signal.

On the second point, where we have a number of teachers who are not as fully qualified as would be desirable, we have set up an extension program, through the use of educational television, of in-service education for teachers. We have not yet gone as far as I would like, especially in the field of credit courses for degrees for teachers, but we hope to make a beginning soon.

Thirdly, on the point of similarity between Newfoundland and Nebraska in their reliance primarily on one industry, let's face it — we are bound to our single industries and the best thing we can do is to promote and find the best methods of improving productivity in these industries. One should branch out and try to reach more people with programs such as your "Decks Awash", which I understand is very successful.

Finally, we must face the characteristic of withdrawal of the people from new educational and technological media. We have tried to involve as many people as we possibly can. We cajole and persuade to make sure that no one can say that they were not consulted. Everyone, with interests ranging from schools to adult education, is given the opportunity to have something to say about the sort of programs that are produced on our ETV network in Nebraska.

A word about this matter of program production, or, as I prefer to call it, program development. Production, in the view of many people, particularly highly motivated television people, begins when the red camera-light goes on and ends when it goes off. It is my contention that there is a much wider view of production, which begins in the classroom when the individual teacher perceives a need she cannot fulfil; and the production is completed when that need is fulfilled.

In Nebraska the classroom teacher is extensively involved in the development of educational television as a whole, and individual programs in particular. The Nebraska Council for Educational Television is composed of approximately one hundred and thirty school systems. These districts include roughly 75% of elementary and secondary school children in the State. The Council has an established steering committee comprised mainly of public school administrators whose responsibility it is to determine which subject areas will be covered, hopefully through contact with their teachers. There are also subject area committees (and

these are much more important, in my view) in each of the major areas of study, such as mathematics, social studies, history, and so on. These committees are made up primarily of classroom teachers, public school curriculum supervisors, and the television teachers themselves. These people have the task of deciding what should go into the televised lesson. Guides are then developed by these people, and, finally, the teacher-producer-director team combine their efforts along with the technical staff of the television facilities.

Hopefully, the need I spoke of earlier will somehow filter up through the maze of committees, administrators, and coordinators, and then be fulfilled and filtered down again to the television teacher and producerdirector, and through all of that elaborate electronic gear to be of substantial benefit to the most important individual in this whole complex, the student in the classroom.

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A Review of Aims and Problems

W. J. McCALLION,

Director of Educational Services, and Professor of Mathematics, McMaster University, Hamilton, Ontario.

I would first like to take this opportunity of saying to Mr. Jamieson, and through him to the Government of Newfoundland, and to the steering committee for this conference, I don't know what we have achieved for educational television in Newfoundland, but I do know that this conference has made a significant contribution to international understanding among educational television people.

We started Wednesday morning with papers presented, wisely, on the educational system within Newfoundland; and we realized very quickly that Newfoundland appears to be striving towards a centralization of the educational system. Mr. Hanley (Deputy Minister of Education for Newfoundland) asked what I thought was a pertinent question: would educational television be a stumbling block to the educational objectives of Newfoundland? Then we had what I considered an excellent presentation, and a rather disturbing one, from Dr. McCurdy (Chairman, TV Committee, Newfoundland Teachers' Association). He concisely outlined the limitations that are standing in the way of placing well qualified teachers in all of the Newfoundland schools. He described the present status of teacher qualifications, and he also described the main problem

areas for teachers in Newfoundland, following which he dealt with his expectations of teacher reaction towards the development of educational television in Newfoundland.

Following that we have had many descriptive presentations of how educational television is handled elsewhere. Some of these systems have been considerably sophisticated, and some of them have been surprisingly simple. It's fair to say as you look around this table that everyone here has had a considerable number of years experience in the field, and the major problem facing all of the presenters has been how do you successfully telescope this number of years of experience into the brief time prescribed. Having heard all these presentations the question for you in Newfoundland is, what do you want educational television to do at the various levels of education in the province?

You have to deal with four distinct areas: university education, secondary school education, elementary school education, and then, with that much more debateable topic, literacy, at least functional literacy. And I believe that one of the first things you must do was suggested by Mr. Möller, that is, you must find out what the teachers want to get from this medium, what they really expect they should get; and, then, develop the system when you know exactly what they want from it. Everyone here would agree that television will do the job when you are explicit about the job to be done.

In the university area you have had descriptions of relatively sophisticated systems. One was the Scarborough College television system as explained by Dean Beckel, and the other was Chicago's TV College, explained by Dr. Zigerell. The system we use at McMaster University, on the other hand, is a relatively simple system. When we decided in the first instance to use television, we spent considerable time in talking with faculty members to find out what they wanted this medium to do for them. We discovered that what they wanted was simply to make their lectures, as they presented them in the lecture theatre, available to a larger audience; so we hired a television producer, and all he had to do was to put two cameras in the front row of the lecture theatre. Then the professors insisted that the producer control these by remote control, which he does. Thus the lecture as presented is carried to other parts of the campus. Dr. Beckel, I know, would disagree somewhat with this system; but ours is not a simple system because the people who were administering it wanted a simple system, but because it does exactly what the users wanted it to do.

In the other area of adult education, we had an excellent presentation from Mr. Snowden, the Director of Extension Service for Memorial University. As a former director of extension I think I am aware of the problems he has. The demands on the time of the department are much greater than he can ever fill with the staff he has. This is true everywhere. Adult education has many pitfalls, particularly for university adult educators. One of the more difficult problems to answer in this field is what is it legitimate for the adult education branch of the university to do. This is a problem that has been debated at many international congresses, national meetings, etc., and it does not have a simple answer; and the question becomes even more difficult when you attempt adult education by educational television, particularly at the university level.

To give an illustration of a possible method of approach for one aspect of the development of ETV within a province I shall describe what has been happening in Ontario. In that province there are fourteen provincially assisted universities. It became obvious that each of these universities was developing its own television system independently. The presidents of these universities wisely called together a committee to consider the possible development of ETV in Ontario for the next decade or so. This committee, after eight months of careful study and deliberation, presented a brief to the university presidents, and one of its major recommendations was that the province should have a Television Council for advising the presidents. On the basis of this brief the presidents so constructed a Television Council. I would suggest that now is probably the time for Newfoundland to form a council to sort out some of the problems you will encounter — and there are problems, as we have discovered. In Ontario, for example, there was a real problem in the matter of compatibility of equipment that would have inhibited the exchange of tapes, in the event that universities should wish to exchange tapes. Furthermore, there was no adequate 'clearing house', in the committee's opinion, and this is now one of the responsibilities of that Television Council

At the school level it seems to me that there are three reasons for introducing educational television. The first one is clearly to overcome a shortage of teachers; secondly, to support either inadequate or incompetent teachers (and all provinces have their percentage of these), and, thirdly, is the enrichment aspect to bring the outside world into the classroom. These different needs demand specific approaches. For example, we heard an excellent presentation from Madame Graham, on

the offering of a French lesson. While this would be satisfactory for some educational purposes we must ask if it would solve the problem of the shortage of teachers. If you are going to solve this problem you must use the television receiver as a 'teacher', and it will be turned on most of the day, and not for periods within an hour. It is also a different problem if you are going to have a cooperative scheme between the television teacher and the classroom teacher, particularly if you are going to be dealing with a percentage of incompetent teachers. Presumably, if they are incompetent, they are not able properly to construct a one-hour lesson for the children, not to mention putting them with a television teacher and asking them to integrate the television material with their own classroom work. This is a real problem. The enrichment aspect of educational television was extremely well presented by Mrs. Jaeger and Miss Vaseff, who gave very good illustrations of how this medium can work at the elementary level.

In conclusion, the people of Newfoundland still have to face the basic question: what can educational television do for Newfoundland today?

Discussion Session:

(1) WILLIAM TURNER (Executive member of the Newfoundland Teachers' Association, and a high school vice-principal): I would like to substantiate what my colleague, Dr. McCurdy, has observed concerning teachers in Newfoundland. It seems as though there is going to be a built-in prejudice against this particular medium in many areas. First, considerable work has to be done on curricular development, and it has to be done almost simultaneously with, or before, educational television enters into the classroom. The second area that has to be explored and I don't want anyone to construe that I am critical of what I am mentioning — is the examination system that exists, because in many areas, particularly in the smaller communities in which there are unqualified teachers, most of the courses are one-book, one-examination operations. In such a situation a totally unqualified teacher, if he or she can read, can be far more successful as far as the community judgment is concerned, than a highly qualified teacher who will try to be rather flexible in his approach to his subject. As a consequence, teachers can make or break educational television in this province.

If it is to be successful the teachers, first of all, have to be sold on the idea that it is a good thing. (I myself am convinced that it is). Secondly, the community must be educated to the point where it will judge the

value of the education given in the schools with a different criterion than it now does. As it is, Newfoundland goes through a yearly educational fit every August when the examination results come out. The community pressures that are brought to bear on the teachers as a result of these various examinations can be terrific, particularly in small communities. A teacher of a large school has protection. As a consequence, many of our teachers who are dedicated and who have given many years of their lives, have been using much the same method of teaching year in and year out, and are very successful as far as the examination results are concerned. So they will have to be convinced of the value of this particular medium. I agree with Dr. McCurdy that this whole matter must be explored in order to change attitudes towards it — with students, too, because all too many of them will associate education with an institution that is based upon the printed word. Anything that is not 'in the book' will be regarded either as useless or entertainment. In any case, if the teachers are convinced that it is a good thing, they will back it; if they are not convinced, it will be regarded as one more gimmick that will enter into the classroom.

(2) Rev. J. M. Culkin, S. J. (Director, Center for Communications, Fordham University, Bronx, New York): I think Mr. Turner's remarks are right on target. The problems that have been anticipated here — and I think it's great to anticipate them and paint them as horribly as possible — are on target with the process and rhythm and geometry of the way the game has been played elsewhere.

One thing that's true about educational television is that it never looks as good in practice as it does in the rhetoric that precedes it; and once you go through this great, enormous task of overcoming obstacles to get it done, then what you find out is that the day-by-day production, the wearing down that goes on, makes it fall considerably short of the rhetoric about it. Now my suggestion would be that, having done what I think is the right thing to do (first, to have given some sort of dramatic platform for your own endeavours by calling this conference) the big thing now is to get some body or a set of bodies who are very, very competent, who know how the game is played in different parts of the world, and the different circumstances, and who can assess what is relevant within their bodies of knowledge. I would think that you should have at least one person who knows this place very well, and who should now get to know educational television very well and to be the continuing person to keep this dialogue going between the organizations, to

explain to the teachers again that all the problems they are going to have are predictable, that they have been gone through before, and that to repeat the past is a great waste of time.

(3) James Wykes (Director of Schools Television, Inner London Educational Authority): I would like to refer to Professor McCallion's four educational categories — university, primary, secondary, and functional literacy. I would like to feel that in the first category, university, he included what you might call "sub-university". I'm thinking of the technical area, of technical training, and, also, what I think is perhaps the most important, teacher training. We have been talking a lot about programs for children in schools, but, as this conference proceeds, I have more and more the feeling that where you should start with your educational television, as far as the schools are concerned, is with the teachers; and I would like to feel that teacher training would figure very largely in the beginning of any program of ETV here.

One other thing, I believe Professor McCallion suggested that you can overcome a shortage of teachers by putting on television programs to a classroom where no teacher is, or where no teacher is effective. I believe we've got to think very carefully whether that is, in fact, going to be possible. I think that the teacher must play a part here, even if not a great or very efficient part.

- W. J. McCallion: On the first point, I would certainly agree with Mr. Wykes. When I spoke of university education I was really thinking of post-secondary education and all of its ramifications, including teacher education. On the second point, I was not suggesting that I thought that television could do the job, as suggested, to overcome the teacher shortage. Teacher shortage is one problem. Incompetent teachers is a different problem. And particularly competent teachers present a third problem for the province. I think that we not only have to solve some of our problems by educational television, but we have to use all means available for solving these particular problems. Television will not solve all of them.
- (4) SHERBURNE G. McCurdy: I would like to direct a question on the subject of program availability and production, to those who are particularly concerned with the production of programs that might extend over a region or over the nation as a whole. What kind of problems are posed by the fact that there is a measure of curricular independence at the provincial level?

- (a) ARTHUR KNOWLES (META): I told my compatriots on the panel that I might say something about what I regard as rather insufferable and complacent attitudes that some American ETV people have about the quality of their programs, both from a technical and production standpoint. I think this is a consideration with respect to the sharing and utilizing of materials. Do they live up to the stated specifications in catalogues, and so on? I think Ed Cohen said to us that it is impossible, and I agree with this, to judge the materials on the basis of catalogue descriptions. You must see the material. We have been put off by the problem of an Alabama accent, for example, and there are problems related to the curricular content, as you suggested. We in META have found a great deal of material, but there is a great deal more that is not acceptable. I think that one of the early developments we need in Canada is not only a regional, cooperative organization that would be responsible for the procurement and the development of suitable materials that can be shared, but we very badly need a national educational television clearing house, not only for information, but to act as a library and distribution system to ensure that the best material is available for every province.
- (b) Hans Möller (National Film Board): The problem raised by Dr. McCurdy is one that we very often face in the Film Board. The regional difference has to do with curricula; but our experience is that it is less serious than it appears. Our material, the visual material, has a flexibility and can often be used at different grade levels. Besides, there is a coordination of curricula taking place in Canada, now more than ever before, so curricula differences are diminishing.
- (c) Jerry DePrenger (Nebraska ETV Network): In replying to Mr. Knowles I would suggest that the lack of quality programming he referred to is not so much a matter of the insufferable attitude of television and production people as it is of the insufferable attitude of administrators and public officials and those who provide us with the money to do the programs. We don't have the budgets we need, and this is unfortunate. Many ETV systems, local and even wider than that, got their cameras and studio and immediately began turning out programs like sausages, sometimes very bad programs. I think we are a step ahead of that in Nebraska, although we are not as refined as we would like to be. On the question of program availability, however,

everything you use need not be produced locally. If you can get better quality things from other places, do it: and we do this in Nebraska.

- (d) Miss Marjorie Vaseff (Chicago Area School Television): I would like to speak to this point since we are probably the largest user of non-locally produced material that I can think of. We telecast some forty-one courses, none of which we produce, which is a sad situation in many ways. We get materials from a variety of sources. It is not impossible, but it requires a great deal of screening of 'garbage'. In the last few years we have looked at a lot of material that has been just unacceptable, but we have also been fortunate enough to find some very good material. And differences in curricula do exist even in our own ten-country area. Even when we begin producing our own materials we are going to have problems; but I don't think our feeling would be that we would want to produce all of our own materials. What we want to do is to use the best materials that have been produced by other organizations, and then to produce, with our own people, the kinds of things that we can do best because of the particular resources in the Chicago area. We have had some interesting problems with accents, and that seems to be the biggest problem. Accents are even more of a problem than curricular differences; but one series we did, in which a young teacher from the south had a very strong accent, evoked two different reactions from teachers. One reaction was extremely critical, while the other was that the series was great because it exposed children to something that they otherwise would not have been exposed to; so you will get 'yes's' and 'no's' no matter what you do. I have found this out even with the same programs from the same teachers in different years.
- (e) Edwin Cohen, (National Center for School and College Television): The fundamental point remains that every educational authority, be it federal, or provincial, or city-wide, has a peculiar point of view about what ought to be taught. If you analyse this material, however, wherever it is produced, you find that certain things are common. Now there are two tendencies in educational television in the United States. Certain state departments, particularly in our south, have gone ahead and produced full courses of instruction without consulting anyone in advance. Such material is so integrated that it is difficult for anyone else to use it, even in part. On the other hand, some other places, especially large metropolitan areas, have to satisfy

a broader audience; and have produced series of discrete programs, each of which deals with a single concept or notion; and these can be adapted by other places. Of course there is no reason why you have to take all of the programs in a series if each of the 'chapters' is separable. Such excerpts may be selected, adapted, and restructured, to be able to be used in a variety of ways.

- (f) Ivan Gilman (BBC): I agree that material that is made for a specific purpose in a specific place is not likely to have the same validity if translated into another place, even if it is used for the same purpose. It has been our experience, working with the European Broadcasting Union, for example, that if we want to exchange material we reach an agreement to exchange film sequences, silently shot material, and we add our own commentaries, cut in our own studio visuals, and so on. On the other hand, there are certain materials that transplant very readily, such as that from a series on gravitation that we produced, in which the speaker is a world figure in his field. Similarly, the "Beginners' Language" courses that we have produced in a number of languages can be transplanted since they don't have a word of spoken English in them.
- (g) L. J. Lawler (Centre for Educational Television Overseas): For the past five years we have been engaged in producing program materials to be used in other countries. Those who are interested in doing this might like to see what we are doing. It is a rather difficult process, and you have to confine your subject material to those areas where you know there is a high degree of uniformity of curricula, such as the more didactic subjects of physics, mathematics, biology, geography, and, to a certain extent, languages.
- (h) Murray Chercover (CTV Network): I would like to introduce some parallels in respect to cooperative activities. Over the past five years the independent stations in Canada have formed a cooperative network, a mutual; and for a large percentage of our schedules we have operated on a common basis. We have commissioned programming centrally or regionally which is applicable in all markets. There are certain parallels here that I think are very important for educators to focus on. The capacity and resources of all of the educational organizations and provincial departments across the country can be applied in those areas where similarities exist. People may have slight accent differences, and differences in outlook from region to region, but much of the information that is transmitted, whether it is

educational or entertainment, is common material, and, purely as a bystander, I would recommend that you begin to focus on the similarities, recognize the differences, deal with them, but don't be frightened about dealing with material that comes from other places, especially in Canada.

(i) EDWIN COHEN: I think it is very important to remember that when we talk about teachers in the schools coming to understand and to use television correctly, we should keep in mind that when the teacher realizes that the television person is not a 'star', and when this television teacher can get out into the schools and meet the teachers face to face and talk to them about common problems, a relationship is established that is one of the important reasons for using and producing local programs.

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CHAPTER VI

GOVERNANCE

Conference Chairman

DON JAMIESON

Having established that there is probably a future in educational television not only in Newfoundland but elsewhere, we now must consider the necessary questions regarding its governing and control.

This afternoon we have abandoned the idea of a fixed panel of speakers and, instead, we will have one speaker who will outline the basic theme, and perhaps present alternatives for your consideration. Following the presentation the meeting will be opened for discussion.

* *

The Alternatives

DR. LEWIS MILLER, Associate Professor of Philosophy, Scarborough College, University of Toronto.

A part of the conditioning of most of us who have looked at educational television is an element of impatience to get on with the job. The time for doubting and indecision has passed, and at this point in time we are fortunate. From among the many hundreds of successful uses of television for educational purposes throughout the world our main problem now should be to select the best examples to satisfy our particular needs. But before this is done, a province must establish some kind of programming organization that will ensure that its educational needs will be satisfied. Our concern now, then, is to consider this question: what kind of governing system should a province establish in order to satisfy its educational needs?

My task is to provide a context for the discussion that will follow. In doing this I will try to outline the range of possibilities from which, soon

I hope, a type of governing system might be established. I shall later have to say something about the exceedingly vague word, "educational". You will have the opportunity of being more specific in prescribing systems, although all of us non-Newfoundlanders are aware that ultimately, with some qualifications, the question is to be resolved only by Newfoundlanders.

I have said that there are "some qualifications" to be made to the choice of a governing organization for a provincial ETV system. To begin with, we should keep in mind that some guidelines have been prescribed in the recent White Paper on Broadcasting. The Federal Government, we have been told, "is prepared to give immediate consideration to the creation of a new federal organization licensed to operate public service broadcasting facilities." The text of the White Paper continues as follows:

"This organization would be empowered to enter into an agreement with any province to make such facilities available for the broadcasting within the province, during appropriate periods of the day, of programs designed to meet the needs of the provincial educational system as determined by the responsible provincial authorities."

And while one ponders on what might be meant by the phrase "responsible provincial authorities," we might recall that in the first paragraph of the section on Educational Broadcasting we are told that "the policy that has been followed for the past twenty years is that broadcasting licences should not be granted to other governments or to agencies under their direct control". The view supporting this practice, spelled out in perhaps every Royal Commission and inquiry on broadcasting that has ever been held in Canada, is reiterated in the White Paper, in the following passage from the sub-section on "General Principles," in the chapter on "Public Control of Broadcasting":

"It is almost universally recognized that the regulation of programming must be entirely and demonstrably free from improper influences and pressures, and can therefore best be delegated to an independently constituted authority which is not subject to any form of direction in that regard."

Obviously further clarification is to be expected, but the intention is clear enough. It would seem that a department of a provincial government, such as the Department of Education, could not expect to hold a licence to own and operate a transmitter for what has come to be called "open-circuit broadcasting". There is no bar, on the other hand, against the building of expensive closed-circuit systems, and production centers, such as the Glasgow city system.

We may assume from the forecast policy that education and educational programming is a matter of provincial and not federal control. "Education" remains a *provincial* concern, whereas "communications" is to remain a *federal* concern. To put this in another way, the federal authority has no right to have control of provincial programming produced for educational purposes. How then, do we establish a programming organization that mediates between the holding of a transmitter licence by a federal organization, and the control of programming at the provincial level?

This question suggests another common sense guideline that we would ignore at our peril, and that is that educational programming should be primarily under the control of educators. But to say this is to beg several large questions. What do we mean by "educational programming" by "educators", indeed, what do we mean by the word "education"? Here one has to be somewhat arbitrary in selecting a working definition from the wide variety of uses of this vague word. No one, we should remind ourselves, has any prior claim to prescribing and enshrining a fixed, standard usage of this word; and if a person wants to say, "I got my education in the school of hard knocks," I see no reason for disparaging his use of the words "education" and "school". Here, we might agree, or almost agree, with Humpty Dumpty when he said scornfully to Alice, "When I use a word . . . it means just what I choose it to mean — neither more nor less."

What is the range of possibilities to be faced by those who are concerned to establish an ETV system? At one extreme it might be said that the word "educational" as used in the phrase "educational broadcasting", should be restricted to instructional programming, directly related to the curricula of schools and universities. It might be argued by those who favour a broadcasting system designed for this purpose that here is where the greatest educational needs exist. On the other hand, there is a broad and perfectly understandable sense of the word "education" that clearly goes beyond references to learning activities in schools, universities, and other so-called 'places of learning'. Here is where the use of the word "educational" becomes most nebulous. Many professional broadcasters, in Canada and elsewhere, hold the view that a large proportion of their programs are educational. Like Humpty Dumpty, they are, of course, at liberty to use the word "education" in this way. I would even be prepared to grant the point, for example, that as a contemporary morality play, the highly successful television program "Bonanza" serves an educational purpose. While program planners of many ETV stations

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in the United States don't tend to operate within a working definition of "education" that would include "Bonanza", they do have a broad, working definition that permits them to include drama, music, public affairs documentaries and panel discussions, news, sports, and weather. The very broadness of the working definition has, in fact, created some tension between proponents of "instructional television" (or ITV) and those from whom they wish to be separated. But the alleged dichotomy between ITV and ETV is not so pertinent in Canada as it is in the United States, for, because of the different way in which the Canadian system has developed, there has always been a place in Canada for educational programming in the broad sense of the word: whereas, in the United States, the relative lack of this latter kind of programming by U.S. commercial stations appears to have been the main stimulant to the development of hundreds of ETV stations. In Canada, on the other hand, the first ETV station or ITV station, for that matter, has yet to be established. It is apparent, then, that those who are planning educational program schedules in Canada will have to take note of the differences between the Canadian and American systems. It will be important to assess educational priorities and ask whether we need educational programming in the broadest sense of the term; keeping in mind both the fact that broadcast transmission time is a limited commodity, as well as the fact that the CBC and Canadian commercial broadcasters are obligated and, I believe, should be more and more obligated to present a certain amount of children's, youth and adult educational programming.

Now between the extreme senses of the word "educational", in the phrase "educational broadcasting", there is a recognizable intermediate category that, at the planning stage of this conference, we termed "noncredit instructional programming". Here we had in mind the kind of program series produced clearly with an educational or instructional motive, and which nevertheless is not essentially tied to a curriculum—although it might 'enrich' or 'supplement' a curriculum. This intermediate category of programming has been produced for all age levels; and Canadian examples range from CBC's "Chez Helene", a program for pre-school children, through CBC Network School's Programming, to adult education programs like the two locally produced programs, CJON's "Decks Awash" and CBC's "Land and Sea".

Given these three rough categories of educational programming it will be necessary, for practical purposes, to make some value judgments as to what should be included in a program schedule. Like Humpty Dumpty, again, we must say what we intend to mean when we use the term "educational television", and, like him, we must be somewhat arbitrary in so doing.

In drawing boundaries to confine the word "education" it is, of course, necessary to consider what are felt to be the educational needs of a province. Who are the people we want to serve? Now when we analyse so called educational programs it would appear that educational needs may be served by the following six programming categories:

- 1. Primary, elementary and secondary school,
- 2. Vocational and Trades Schools,
- 3. Teacher training,
- 4. University,
- 5. Non-credit instructional programming at the following levels:
 - (a) Pre-school,
 - (b) Children's and Youth, including schools "enrichment" programming,
 - (c) Adult,
- 6. Educational programming in the broadest sense of the word "education" to include drama, music, public affairs, news, sports, and weather. (We must note that it is possible to be restrictive within this category, say to drama and music only).

Within these categories it will be necessary to assign program priorities relative to felt educational needs, and the programming authority will have to reflect these needs. Now there happen to be two logical possibilities, taking both sides of the spectrum, in considering a provincial programming authority. On the one hand, one could think that the control should be entirely within the Department of Education; the other possibility is that the provincial programming authority should have a wider representation.

If all of the previously mentioned categories are included then it would appear that you might have representation from within the following categories of activity:

- 1. Department of Education,
- 2. School Boards,
- 3. Teachers' Association,

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- 4. University,
- 5. Voluntary organizations (such as the YMCA, the Red Cross, social clubs, welfare and social agencies, private schools, etc.),

One might consider as well:

- 6. Government departments other than the Department of Education (such as Fisheries, Health, Welfare, Labour, Finance, the Power Commission, etc.); and, also
- 7. The Provincial Branch of the Canadian Association for Adult Education in Provinces where such branches exist.

Somewhere from within these categories you may find representation for a programming authority for a provincial system.

Here, then, is a possible context for further discussion. Where do we go from here? Who is to assess and to determine what are the essential educational needs to be served? Who is to arbitrate between the conflicting interests of the various organizations that will want to use the ETV system? What are the technical needs for an ETV system, and who is to assess them? And, perhaps one of the most interesting questions of all, what kind of relationship should be worked out between provincial program planners and the federal licensing authority? These are but a few of the questions that must be explored.

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Discussion Session:

Chairman, DON JAMIESON:

Note: This section follows the chronological sequence of the discussion session, thus the three main topics (viz., federal-provincial relations, the nature of a controlling agency for an ETV station or network, and the definition of "education" to be adopted for policy), as well as several other topics, appear and re-appear throughout the session. Since the discussions on these topics tended to over-lap, there has been no attempt to present this section under sub-headings. The numbered divisions, with their lettered sub-divisions, are thus not necessarily related to any one of the main topics, but are rather the result of a somewhat arbitrary attempt to indicate groups or clusters of statements as the discussion proceeded.

(1) WILLIAM TURNER (Executive member of the Newfoundland Teachers' Association, and a high school vice-principal): In the proposed new federal legislation is the agreement in the granting of funds and equipment to be between the federal licensing agency and provincial

authorities, or between the federal agency and the constitutional authority that will be established within the province for programming?

PIERRE JUNEAU (Vice-Chairman, Board of Broadcast Governors): The contacts would have to be between the federal government and the provincial departments of education if that is the intention of the provincial governments involved. At a later stage, depending on internal developments within the province, the relationship might be different; but it is obvious that at the beginning the relationship will be with the official provincial authorities.

- (2) WILLIAM TURNER: Will provision be made for the federal government to control the disbursing of funds, or will the provincial government control the disbursing of such funds?
 - (a) PIERRE JUNEAU: Bearing in mind that the proposed policy has not been completely clarified, I think I can say that the intention would be for the federal government to build, develop, and own the transmitters. Of course this would be done in close consultation with provincial authorities because the facilities will vary according to the needs of the provinces; but that is where the financial involvement of the federal government would normally stop. There would not normally be a transfer of funds. As you probably know, our federal-provincial financial relations are an extremely complex matter.
 - (b) G. Fizzard (Assistant Professor of Education, Memorial University): Do I understand, Mr. Juneau, that there would be no federal funds for programming, and that all the money for programming would have to come either from the provincial government or from other agencies and foundations?
 - (c) PIERRE JUNEAU: I would say that, normally, the answer to your question is "yes", that there would be no federal money for programming. There are at the moment, however, exchanges of funds, or transfers of funds, from the federal government to provincial governments for programming in other fields of education, such as vocational training, but I don't know what would happen in the field of educational television. The general intention, however, would be that programming would be a provincial responsibility, and, consequently, would be financed provincially.
 - (d) Bruce Raymond (Assistant Program Director, Television Network [English], CBC): May I read the appropriate section, section 9, of the White Paper on Broadcasting, which covers this question. It is as follows:

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"Educational Broadcasting

A tremendous expansion in the use of television for educational purposes is to be expected in the next few years, and the operation of educational broadcasting stations or systems involves both federal and provincial responsibilities. The policy that has been followed for the past twenty years is that broadcasting licences should not be granted to other governments or to agencies under their direct control. The only exceptions have been some radio licences issued to educational institutions specifically for educational broadcasting. Provincial applications for licences for private television stations to be operated in connection with the educational system of the province are now being received, and more are to be expected in the near future.

Federal policies in the field of communications must not work to impede but must facilitate the proper discharge of provincial responsibilities for education. For this purpose, it will be necessary to work directly with the provinces to study the technical facilities required, and to plan and carry out the installation of educational broadcasting facilities throughout Canada.

The Government is prepared to give immediate consideration to the creation of a new federal organization licensed to operate public service broadcasting facilities. This organization would be empowered to enter into an agreement with any province to make such facilities available for the broadcasting within the province, during appropriate periods of the day, of programs designed to meet the needs of the provincial educational system as determined by the responsible provincial authorities. As a component of the Canadian broadcasting system, the new organization would be subject to the authority of the Board of Broadcast Governors in respect to the licensing of stations, the hours of broadcasting, the interpretation of its purposes, and generally the regulatory power of the Board in all matters affecting general broadcasting policy in Canada. Details of this arrangement will be developed after ample opportunity has been given for full discussion with all concerned.

It is the view of the Government that, since the imminent availability of ultra-high-frequency channels and facilities will be quite adequate for the needs of education, there is no need at this time to proceed with the recommendation of the Advisory Committee that the very-high-frequency channels now in use should be pre-empted for educational purposes in the forenoon."

- (e) Don Jamieson: I think it might be useful at this time to mention that, in addition to transmitting facilities, the use of a channel, be it UHF, VHF, or in the 2500 mc band, is a relatively small part of the problem of distribution. We have heard also, for example, about cable systems, and videotape banks, and there may be questions of jurisdiction about these things as well. Should a cable system, for example, or a community antenna system, linking up a number of schools come under the control of the Board of Broadcast Governors? I wonder if Mr. Beaton could tell us if the cable system in Glasgow is administered by the national authority.
- (f) W. G. Beaton (Deputy Director of Education, Glasgow City Education Authority): We had to have permission for the cable to be laid, but it is our cable on a rental basis for seventeen years. We operate generally as an ETV station, however, under a franchise granted from the national authority.

- (3) ARTHUR KNOWLES (Executive Director, Metropolitan Educational Television Association): The really basic question is: how can we assure ourselves that not only the obvious, legitimate and important areas of concern of the departments of education shall have adequate opportunity to be protected, but how can we ensure that access to these new frequencies will be available to universities, community voluntary agencies, such as the YMCA, and a variety of other adult education organizations? How can this be assured if the arrangements for control and operation of such frequencies lie only between the federal ETV authority and the provincial department of education? Secondly, is it going to be possible for other agencies, as distinct from the department of education, to make their own relationships or arrangements with the federal ETV authority?
 - (a) DON JAMIESON: These are difficult questions, especially since the statement in the White Paper is purely a proposal at the moment. At the outset we must acknowledge that the question of control within the province stems from a long established principle that broadcasting is in fact a federal responsibility and that the federal government has the total and complete authority in terms of the assignment of franchises for broadcasting. Under the proposal, what seems to be sought is a means through which federal control of the 'hardware' is retained; but beyond that point the federal government also respects the fundamental policy of the British North America Act that it not be involved in education. As I understand it, it is then up to the province (assuming that a province accepts this initial premise that it be prepared to enter into agreement for the use of a federal transmitter) to determine within its own boundaries the manner in which the transmitter is going to be used. And as far as I am aware, though I am subject to correction on this, any dealings with regard to access to the transmitter would be between a provincial agency seeking the use of it and another provincial agency that has been given the job of controlling the system within the province.

The key issue, as Dr. Miller has said, is whether the controlling agency is one that is totally within, say, the department of education, or is one that is broadly based with representatives from the various educational organizations and other organizations within the province.

(b) EDWIN COHEN (Executive Director, National Center for School and College Television, Bloomington, Indiana): In the United States we have the situation of the federal government's wanting to

encourage the increase in the number of television transmission installations; and it used the device of insisting that each of the states create an individual television authority. Now the particular character of that authority in terms of its relationship to the state government was a matter for each of the states to determine. There are now over thirty of these relationships in the United States, and they are not all following the same pattern. This method of approach ensured, though, that, as a minimum, each state would have some responsible body, reporting perhaps to different authorities, to ensure that before federal money was used for the creation of hardware facilities, a thoughtful plan had been worked out. This plan would take into account all of the formal and informal educational interests within each state.

- (c) Arthur Knowles: There is also a basic issue of academic freedom involved here, which I think we probably implicitly recognize, but which I think should be made explicit. Suppose a professor wishes to discuss certain concerns within the context of his course that the department of education would not wish. And there are other legitimate aspirations within communities as well that might conflict with wishes of the department of education. The question is, whose freedom is going to prevail? In Ontario, furthermore, there seems to be a real need for public discussion of a great many local community issues that seldom get discussed. Right from the outset, the relationship between provincial departments of education and all of the agencies that Dr. Miller listed to which we could add others as well as the relationship between provincial programming authorities and the Board of Broadcast Governors, should be made very, very clear.
- (d) Don Jamieson: When I said that there would be no relationship between various agencies within a province and the federal agency, that would be true only up to a point. I would see that the first job of the federal agency and this is going to be one of the most difficult things to do is to arrive at an appropriate definition of educational television for the purposes of the Broadcasting Act. And a province licensed to use the federal facility would have to do so under certain contractual or licensing arrangements. In other words, they would have to agree to abide by the ground-rules that would include this particular definition of educational television. Now, then, if an educational organization wished to discuss some contentious subject, and felt that the provincial authority in denying it broadcast

time was not living up to the terms of its contract with the federal authority, then I would imagine that there would be the right of appeal — just as an existing commercial licensee is subject to any viewer's going to the BBG to argue that the licensee is not functioning as its licence indicates it should. There is at least this kind of protection to ensure that there is not a restriction of academic freedom.

The problem goes even deeper, however, because I can see all manner of difficulties once one gets outside the classroom kind of television instruction. When we get into areas beyond instructional television, such as the discussion of civic politics, or whether a provincial government is corrupt, is this within the accepted definition of "educational broadcasting"? Furthermore, and this was the point raised by Dr. O'Flaherty, I think that we must be very sure to safeguard and eliminate the possibility that a system might be used for propagandizing. These are all basic to this question of control.

- (e) Professor Fizzard: The concern I was going to express was that if the facilities were controlled by the provincial government directly, or through a non-governmental agency within the province, the ultimate choices would rest within the provincial government. If this is the case wouldn't the provincial government have a *de facto* licence for operating the facility, which would be, in fact, against the proposed federal policy?
- (f) Don Jamieson: The provincial government would not be a licensee, since they would make, in effect, a contract with the federal agency, which is the licensee. The province says, in effect, we want to utilize this air time, and the federal agency says on what basis, and it is then that the ground-rules are laid down. I admit that there is the possibility of a certain amount of hair-splitting over this, but this kind of relationship happens so frequently in Canada between federal and provincial jurisdictions that it is becoming commonplace. The problem is, who is going to determine the 'program mix', who is going to determine who gets on the air?
- (g) S. G. McCurdy: Then there is a second level of control, at not just the local level, but perhaps more accurately, at the production level, the basic policy-making, management level. I believe that the teachers have a very profound stake in both these levels of control, since they comprise the professional organization responsible for carrying out the teaching in our schools.

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With reference to the first level, the first item on the set of objectives of the Newfoundland Teachers' Association is that we should strive to raise the standards of education; and it is working from this stage that we feel that we have a legitimate place in the scheme of things in whatever agency is created, to take part in policy decisions at the provincial level. I feel sure that we might support the idea of some equivalent to a crown corporation, with directors to *control* — not to advise but to control — the policy-making at this level.

Then, at the secondary level, we are concerned; again through our objectives and through our obligations to our membership to protect the academic freedom of our members to make educational decisions in the areas of their special competence — and, of course, this occurs at the production level.

So, on these two grounds, we believe that the nature of the control should be such as to give us and other interested parties a clear voice in determining the kind of policy we are going to have for controlling this new medium.

- (h) Don Jamieson: In order to point up your comments, Dr. McCurdy, I take it that the Teachers' Association or at least you personally, would be inclined to favour a broadly based, fully representative agency of control.
- (i) S. G. McCurdy: Of control, yes, but not advice. I don't think anyone could get away from the position that the provincial government is involved, very deeply involved, in the whole business of education, and I don't think anyone would dispute this. Indeed, the government interest is the public interest. But for the business of making policy it is in the public interest that policy be made by those who are particularly competent to make policy in this area.
- (4) Don Jamieson: It has been suggested that one way in which we might get a workable definition of "educational television" for purposes of legislation is that the programming, in order to qualify, would have to involve something other than the mere act of viewing, and that as part of the learning process there would have to be some sort of viewer involvement. This is easiest when one considers a credit-course involvement; but the suggestion is that for an adult education series, for example, to qualify, there should be something other than just merely putting the program on the air, such as study-group involvement, the sending out of printed, accompanying material, and even, in some instances, written tests or responses on the part of viewers.

(a) E. I. GILMAN (Chief Assistant to the Controller of Educational Broadcasting, BBC): May I outline what has been agreed upon in the United Kingdom as a definition of "adult educational broadcasting". It was agreed that educational television programs for adults would be programs other than school broadcasts, arranged in series, and planned in consultation with appropriate educational bodies to help viewers towards a progressive mastery or understanding of some skill or body of knowledge. This working definition can of course apply to what you would call credit and non-credit courses.

It seems to me that one must eliminate from our discussions the broad range of material that in the U.K. we would call "educative", as opposed to "educational", by which I mean drama, music, documentaries, and so on. We regard these educative programs as part of our network provision. Then, the problems of school broadcasting are such that they can be separated off as one segment of your specifically educational provision. Secondly, you can separate off your specifically university requirements. Thirdly, there is the sort of adult education material that is covered by the type of definition I have just given. I would distinguish, then, three types of programming, schools, universities, and adult education; and it seems to me that if there could be some provincial executive authority, independent perhaps of the government, which would be your educational broadcasting coordinating authority, it could then have subcommittees that would be representative of the three main areas that I defined. There would be the need to coordinate the demands of one sub-committee, as against another, and this could be the function of the provincial executive authority who would, in effect, hold the money bags.

(b) ARTHUR KNOWLES: I think that the breadth of the definition by Mr. Gilman is helpful. The possibility that a definition would be based on some rather mechanical aspects, such as the availability of study-guides, or registration procedures, and so on, would seem to me to be very limiting and questionable, since a great many of the people one would expect to reach, especially those outside the normal context of in-school television, will be those who have, for one reason or another (and generally appropriate reasons) rejected standard classroom procedures, such as study-guides, and so on. You may, in fact, want to do a great deal in the area of basic education, or library education.

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I wanted, also, to make the point that the whole definition of what constitutes education in this country is not helped at all by the British North America Act; and a participant to this conference commented to me that there are at least fifteen or twenty bodies which are actively engaged in one kind of educational program or another. We have, for example, the CBC, with or without the sponsorship of the provincial departments of education; we have the National Film Board, and Departments of Agriculture, of Labour, Industry, etc., all engaged in one kind of educational activity or another. So, because of the vagueness of the B.N.A. Act, especially in the non-school area, in its definition of education, it seems to me that it is highly questionable to suggest that the federal government treat with a provincial government concerning these many uncharted areas that now are not even regarded by the federal government as being outside their concern.

- (c) Don Jamieson: I have a feeling that unless we are careful in the development of educational television somebody is going to see three, four, or five open hours in the evening, and we will get into all manner of things which even by the widest stretch of imagination could not really be classed as education. What about religious broadcasting, for example? If this were not in some way defined it would be perfectly legitimate for all religious denominations to say that their religions are forms of education.
- (d) ARTHUR KNOWLES: Willie Beaton mentioned that in Glasgow they were going into the area of religious education, and this, again, is one of those areas where television has a role to play, and in an area in which specialists are in extremely short supply. The need for comparative religion courses at the secondary school level requires for its fulfilment a whole body of teachers who are now available in most departments of education. Here, again, I would feel that the broadest possible definition of "education" be assured to allow for the inclusion of this kind of programming.
- (5) W. R. WILSON (Technical Adviser, BBG): With so many here from the United States who have been connected with ETV stations, I wonder if we might ask if there have been any problems concerning the programming of political broadcasts, or programs that verge on the political area, whether civic, state, or federal.
 - (a) T. R. CONANT (Director, Special Educational Services, WGBH-TV, Boston): The practice varies widely. There are many

kinds of ETV stations and ETV networks in existence. On the whole, most of the state networks, such as the ones in New Hampshire and Maine, have not carried many of the more controversial political broadcasts that the community stations of the Eastern Educational Network have originated. They have simply opted out, saying that this is an area they cannot deal with because they have to get funds from their legislatures. There is no legislation to cover this. It's simply a decision on the part of the station manager that he does not want to get into this area of troubled waters.

There is a handful of well-financed, relatively rich community stations that are now engaged in political broadcasts. Some of these programs have a very controversial nature, such as on topics of slum conditions, on right-wing organizations, and so on. We do these programs to air local conditions, and we do provide equal time for opposing views. When we have political candidates on the air, by the way, we present not only the major parties, but the small parties as well, it being a federal requirement (under the Federal Communications Act of 1934) that equal time be given to all views.

Local stations sometimes take refuge in the advisory apparatus of the National Educational Television office in the broadcasting of subsidized non-locally originated controversial programs; but in terms of locally produced programs on particularly controversial issues, very, very few educational television stations have done this in the United States, the exceptions tending to be the community stations in the larger metropolitan areas, that are supported by the public.

- (b) Bruce Raymond: I wonder if there is not a certain amount of unreality in our thinking, concerning the control of the educational television system. Surely whoever provides the money is going to want to exercise a very strong degree of control; so if the money comes from a provincial government it would seem to me somehow that that government would want to ensure that the control over the system that it would have to maintain at an ever-increasing cost would in some way remain within the government's set-up, such as through a department of education, or perhaps a department of educational broadcasts. It seems to me that to think in terms of committees or groups or organizations drawn from the body politic is a little unreal.
- (c) Don Jamieson: Well, I can only say in that connection, Mr. Raymond, that I suppose the precedent for government financing and participation without control is surely within your own organization.

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I think we would say that the CBC's position, relative to Parliament, is somewhat comparable to the relationship which I think Dr. Mc-Curdy is envisaging here, where the province assigns the authority to some other group. Now, whether or not there is implicit in their assignation — or whatever one wants to call it — the suggestion of government control is difficult to say. This is always a grey area, as indeed it is at the federal level.

- (d) Bruce Raymond: I perhaps could reply "touché", but I won't, because the CBC is controlled by a Board of Directors appointed by Order-in-Council; so, therefore, we are, in the most accurate sense of the word, controlled by the source of our money.
- (e) Don Jamieson: Within that framework, however, and admirably, the CBC can exert its independence.
- (f) S. G. McCurdy: I have in mind all manner of precedents for the kind of proposition I suggest, especially relating to finance. Many municipalities in Canada and the United States operate school systems on the basis of what we call fiscal independence. The school boards are elected, they do the job, they send the bill to the municipal authority, and the municipal authority pays it. There are many examples of such relationships of fiscal independence in various municipal areas across this continent, in which millions and millions of dollars of expenditure are involved.
- (6) Don Jamieson: Two thoughts have emerged out of this discussion so far on the definition of educational broadcasting, representing perhaps two rather fundamental points of view. One view sees educational television being used for the broadest possible range of services, taking the word "education" in a broad sense. The other view is that educational television should be very largely confined to the more formal types of education, leaving the less formal kinds of educational broadcasting to the CBC and the private sector.
 - (a) PIERRE JUNEAU: Canada has been through a number of processes of clarification of broadcasting policy, and although it might not have been sufficiently clarified as yet, it may be said that the government attitude has not changed respecting broadcasting in general. In other words, the CBC and private broadcasters still exist, and whatever kind of educational broadcasting policy is adopted I don't think that the purpose of educational television is to replace the CBC and the private broadcasters, and their obligations are not to be

diminished because of the advent of educational television stations. I suspect that in some sectors there is, rightly or wrongly, dissatisfaction with the efforts of the CBC and the private stations, and, as a consequence, this has led to wanting from an educational television system a type of programming that is not accomplished in sufficient degree by the CBC and private broadcasters. Well I don't think that this is the intention of government policy; and my suggestion would be to those who think that there is not enough work done by the CBC and private broadcasters in the field of general education, culture, and so on, that they should undertake to obtain a greater effort from these broadcasters. The tradition has been that we expect the CBC and private stations to make a very real effort in these areas, and I think it would be going against the whole tradition to do anything that would relieve the CBC and private broadcasters from making the effort expected of them.

- (b) STUART GRIFFITHS (Executive Vice-President and Managing Director, CJOH-TV, Ottawa): As a broadcaster and operator of a television station, while I don't disagree with Mr. Juneau's views, I would think that, with the development of a separate educational television network, the broadcasting stations working at present with school broadcasts, whether CBC or private, would somehow or other have to alter their activities. The operation of the educational network in itself has so many advantages for in-school broadcasting that the development of such a network would only underline the deficiencies, I think, of our present system. I would think that as an effective educational network develops, the private broadcasters and the CBC would seek opportunities to carry out their responsibilities, which they all must accept, in terms of public affairs, cultural programs, etc., but not necessarily school broadcasts.
- (c) PIERRE JUNEAU: It would be regrettable if in the next few years the CBC and the private stations that have done very important work in school broadcasting, abandoned that effort. I think it is extremely important for the training of teachers, and producers, and also for filling the gap until specialized stations exist; but even when those specialized stations do exist, I think that it might be very useful if the CBC and private stations go on cooperating with educational authorities to provide a certain amount of hours every day; although it would seem to me that at a certain point this, while being useful, might not be indispensable.

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- (d) STUART GRIFFITHS: I was not thinking that there should be an immediate switch-over. It would be a matter of phasing one in and phasing one out; but the fact is that the CBC, and for that matter the private stations too, because of working at a national level, have had great difficulties satisfying the particular curricula of educational authorities.
- (e) REV. J. N. MACNEILL (Director of Extension, St. Francis Xavier University, Antigonish, Nova Scotia): With reference to Mr. Juneau's remarks, we do have so much work that needs to be done, and we must go about it immediately. I think that educators and the people in the CBC and private stations have not adequately used the facilities that are now available to do the work that should be done. I see ETV as complementing this. I would hate to see anybody trying to define "education" in too strict a sense, since educators themselves can't do it. I agree with those who say that we have to permit as wide a range as possible in the use of the word, and leave our trust and confidence in the kind of board that we would set up to administer this. People on such a board, we would hope, would represent the citizens of the province, or the country, and it would be their decision as to whether such and such a program or series of programs would be allowed. If a matter like religious broadcasting were brought up, for example, that could be handled in just the same way as the CBC had handled it for radio. I think these matters could quite easily be handled by a body set up by the province. In any case, there is so much to be done through television that we should use the facilities we now have in a much better way than we are now using them.
- (f) Bruce Raymond: I wish to make the point that, so far as the CBC is concerned, distribution, not production, is the problem. Stuart Griffiths referred to the difficulty of school boards incorporating national school broadcasts into their curricula. Well, of course, that is their fault, and I say it in this way because it is the school representatives who determine what is going to be produced as a national school broadcast; and they do have a great deal of difficulty in distributing the programs because, as all broadcasters know, it is very difficult to find time on a network schedule that is suitable to each and every school. Indeed, when even a local school telecast is done in a city such as Toronto, exactly the same problem occurs. As long as we continue to think in the traditional terms of broadcast

dissemination, for broadcasts to be picked up and used as they come off the air, one of the problems we must face — a more knotty problem than production — is the problem of distribution.

- (g) E. I. GILMAN: With reference to the suggestion that it is difficult, because of timetable problems, to integrate schools programming with the curricula of various schools and school districts, I think that this problem will pass quickly because we are, in fact, getting into a similar state with ETV that we are already in with radio; that is, we can look forward to the time when schools will have their own VTR recorders so that they can take programs off the air and replay them when they are needed.
- (h) REV. M. J. BELAIR (St. Mary's University, Halifax, Nova Scotia): Father MacNeill has mentioned the problem of trying to sell educational television to educators, which reminds me of the problem of trying to sell an urban renewal project to a prostitute in Sodom and Gomorrah.

A great deal of the discussion on controls has centred around the question of quantities of time for different interests. There is another aspect, however, that must be considered in the assessment of what is allowed to be broadcast, and that is the question of quality of programming. If quality is a criterion this would immediately eliminate the problems that emerge concerning people who have axes to grind, or the professor who thinks he is photogenic when he isn't, and so on. If the station itself, the broadcasting enterprise, would insist on a certain standard of quality for everything that is put on, it would be exercising an area of control that is not only necessary but very legitimate.

- (i) Don Jamieson: We must also remember that there is a matter of financing, and there will thus be a question of priorities in terms of those things on which moneys are going to be spent. With the background of differing views as between the totally academic or formal school educational programming and the enrichment type of programming, there may be a constant struggle to determine just where dollars are going to be spent.
- (j) MURRAY CHERCOVER: An assumption that seems prevalent, which I must question, is that a network of single ETV stations in market areas will handle all of the ETV needs in the country; whereas and this fact has been impressed on me during the last

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few days — the realistic fact is that a single station in any given area of any size, with any moderate number of schools, will not be capable of handling the requirement. Thus I think it is unwise in this governing session to adhere to this assumption, and I think, instead, that we should be dealing more with the decisions as to what is to be done, what is to be transmitted, and not how.

- (6) Arthur Knowles: I would like to question the suggestion made by one of the delegates that it is possible effectively to combine the educational approach with an entertainment approach on an ETV station. The occasional, mixed educational-commercial use on some channels in the United States, e.g. in East Lansing, Michigan, doesn't seem to work effectively, largely because of the desire of the commercial operator there to want to utilize any additional time that may be available for revenue-producing programs. In this context I would like also to allude to the schizophrenic character of the CBC, where, again, the revenue-producing requirements often eat away at the non-revenue production areas. I think that the suggestion that in Newfoundland or anywhere else in Canada there might be a combination of education and commercial entertainment in programming should not be considered seriously.
- (7) Don Jamieson: We have heard some strong views supporting the idea of a broadly based provincial governing authority. Is there any support for the other alternative, that a more suitable approach would be to have the Department of Education having direct control.
 - (a) P. J. Hanley (Deputy Minister of Education, Newfoundland): President Morgan and I have just been whispering to each other, and I think we would both agree that Department of Education control would not solve our problems in this province. We would want it more wide-based than that, possibly along the lines that Mr. Gilman has suggested to this conference.
 - (b) M. O. Morgan (President, pro tem, Memorial University): I would first like to refer back to a statement made by one of the gentlemen from the CBC on the question of the provincial government's wanting control if they provide the money. We have an example in the University here, which is a provincial university, in which by no means is there any say on the part of the provincial government on what we do. Controls may come in the type of program that they will finance, as is apparent in the famous statement of a premier of Nova

Scotia in which he asked why the province should finance a chair on Egyptology in one of the Nova Scotian universities. This is one of the areas where the provincial government may have some say in what money they will provide; but that does not prevent the University from getting money from other sources for its programming.

I think, too, that there is a misconception about the amount of time that will be required in this province for ETV. This University, apart from its responsibilities for in-service training of teachers, is assuming responsibility for the continuing education of the medical profession, and this will be expanding into other professions. We have to provide programs like "Decks Awash" for people of other trades, such as farmers and miners. We are assuming a rather major role in the area of community development and leadership programs. Thus there is a whole range of programs that should be emanating from the University. Our function here seems to be somewhat different from what may be happening in other provinces since, by law, this is the only university, and we shall be creating, presumably in the near future, either satellite campuses or branches of the university in other parts of the province. There are problems as to who is to determine the type of educational program that we should be offering. Especially will this be true when we get into the area of community development and leadership programs. The provincial government is concerned primarily with social welfare, expressed in monetary terms, or in economic development; but there is the whole question of the changing values of our society, concerning which, people look to the University for help and guidance; and our function is to step in and fill vacuums, to do things that in other areas are not being done.

The University, in any case, has established itself with a reputation of being independent and impartial. The governing body for ETV in the province must be independent, and not the Department of Education; and I think everyone concerned would agree that that independence and impartiality could be best maintained if there is a strong University representation in it.

(8) Don Jamieson: It's going to take some time for us, in quieter moments and under different circumstances, to sit back and contemplate and try to sift out the tremendous number of facts, and the advice and information that we have received. I can assure you that I have found every single moment of this conference enormously beneficial;

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and I am quite sure that what we are witnessing here today is the beginning of not only an educational television system for Newfoundland, whatever form it may take, but I have the feeling too that the ramifications of this conference are going to go well beyond the boundaries of this small province.

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APPENDIX

LIST OF PARTICIPANTS

I Speakers, Session Chairmen, and Steering Committee

- BEATON, W. G., Deputy Director of Education, Glasgow City Education Authority. Glasgow, Scotland.
- BECKEL, W. E., Dean of Scarborough College and Professor of Zoology, University of Toronto, Toronto, Ontario.
- CHERCOVER, M., Executive Vice-President, CTV Network, Toronto, Ontario.
- COHEN, E., Executive Director, National Center for School and College Television, Bloomington, Indiana, U.S.A.
- CONANT, T. R., Director, Special Educational Services, WGBH-TV, Boston, Massachusetts, U.S.A.
- Culkin, Rev. J. M., S. J., Director, Center for Communications, Fordham University, Bronx, New York, U.S.A.
- DEPRENGER, J., Producer, KUON-TV, Lincoln, Nebraska, U.S.A.
- Duggan, K. F., Principal, College of Trades and Technology, St. John's, Newfoundland.
- FOTHERINGHAM, A. M., Educational Liaison Officer, Department of Schools and Youth Programming, Canadian Broadcasting Corporation, Toronto, Ontario.
- GILMAN, E. I., Chief Assistant to the Controller of Educational Broadcasting, British Broadcasting Corporation, London, England.
- Graham Mrs. Lina, TV Teacher of French, Department of Education of Nova Scotia, Halifax, Nova Scotia.
- GRIFFITHS, L. J., Chairman of the Court Senate Committee on Audio-Visual Aids, Strathclyde University, Glasgow, Scotland.
- HAMPTON, W., President, College of Fisheries of Newfoundland, St. John's.
- HANLEY, P. J., Deputy Minister of Education for Newfoundland, St. John's.
- HEWITT, C., Deputy Director of Television, Leeds University, Leeds, England.
- JAEGER, Mrs. John, Teacher, and National Consultant for the National Association of Educational Broadcasters, Cleveland Heights, Ohio, U.S.A.
- Jamieson, D., President, Newfoundland Broadcasting Company, CJON-TV, St. John's.
- Juneau, P., Vice-Chairman, Board of Broadcast Governors, Ottawa, Ontario.
- Knowles, A. F., Executive Director, Metropolitan Educational Television Association, Toronto, Ontario.
- Lamb, S. S., Associate Professor of English, Sir George Williams University, McGill University, Montreal, Quebec.
- LAWLER, L. J., Head of Production, Centre for Educational Television Overseas, London, England.

McCallion, W. J., Director of Educational Services and Professor of Mathematics, McMaster University, Hamilton, Ontario.

McCurdy, S. G., High School Principal, and Chairman of Television Committee, Newfoundland Teachers' Association, St. John's.

MACLEAN, Roderick, Director of Television Service, University of Glasgow, Scotland.

MacNeill, Rev. J. N., Director of Extension, St. Francis Xavier University, Antigonish, Nova Scotia.

McLean, Ross, Research Director—Programmes, Board of Broadcast Governors, Ottawa, Ontario.

MILLER, D. L. C., Associate Professor of Philosophy, Scarborough College, University of Toronto, Toronto, Ontario.

Möller, H., Director of Film Strip Production, National Film Board, Montreal, Quebec.

Mordell, D. L., Dean, Faculty of Engineering, McGill University, Montreal, Quebec. Morgan, M. O., President (pro tem), Memorial University of Newfoundland, St. John's.

NEMOTO, Y., Manager, Agriculture Broadcasting Division, NHK (Japanese Broadcasting Corporation), Tokyo, Japan.

OLDHAM, R., WGBH-TV, Boston, Massachusetts, U.S.A.

Puglisi, Maria G., Head of Telescuola, Rome, Italy.

RAYMOND, B., Assistant Program Director, Television Network (English), Canadian Broadcasting Corporation, Toronto, Ontario.

RUSSEL, R., Communications Consultant, Montreal, Quebec.

Snowden, D., Director of Extension Service, Memorial University of Newfoundland, St. John's.

STACEY, A., Registrar for the Conference, St. John's, Newfoundland.

STEWART, ANDREW, Chairman, Board of Broadcast Governors, Ottawa, Ontario.

VASEFF, Miss M., Executive Secretary, Chicago Area School Television, Incorporated, Chicago, Illinois, U.S.A.

Wykes, J., Director of Schools Television Service, Inner London Educational Authority, London, England.

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ZIGERELL, J. J., Assistant Dean of Television Instruction, TV College, Chicago, Illinois, U.S.A.

II Resource Participants and Observers

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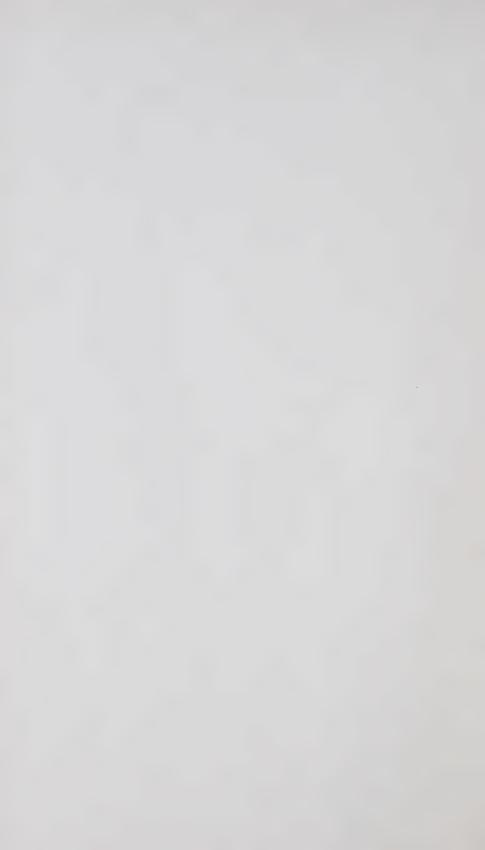
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